

APPENDICES

TO THE

REPORT OF THE SPECIAL COMMISSION

APPOINTED BY

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL

TO ENQUIRE INTO THE

ORGANIZATION AND EXPENDITURE

OF THE

ARMY IN INDIA.

VOL. II.

SIMLA:

GOVERNMENT CENTRAL BRANCH PRESS.

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APPENDIX IV.

Questions proposed by the Commission, and Replies by Officers of the Army in India.

A. Organization, Mobilization, Transport, &c.	G. Native Infantry.
B. British Cavalry.	H. Medical.
C. British Infantry.	I. Commissariat.
D. Artillery.	J. Transport.
E. Sappers and Miners, Royal Engineers in India, Military Works, &c.	K. Ordnance.
F. Native Cavalry.	L. Horses.
	M. Departmental procedure.

N.B.—The replies of all officers have been arranged under the heads of the several questions to which they relate, the questions being printed in larger type than the answers. Miscellaneous papers which were found too lengthy to place in the replies will be found at the end of this Appendix A, except such as deal with special matters, and have been placed in the Appendix treating of the particular subject. Replies have not been received from every officer addressed: and some of those who have answered have not found it possible to read replies to every question.

A.

Organization, Mobilization, Transport and Supply, Equipment and Clothing, &c.

1. What are the additional requirements of corps of the various arms in equipment, &c., proceeding on active service—

(a) In the plains of India?

(b) Afghanistan, Burma, China, &c., South-Eastern Frontier.

How long would it now take to mobilize a regiment within the division, district, or brigade under your command, supposing that regiment is at full strength, for these various services?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

(a) In the plains of India the equipment of all branches is sufficient, save as regards water-proof sheets, which would be necessary at certain seasons.

(b) In Afghanistan and Northern China all branches should be supplied with the following articles:—

<i>Europeans.</i>	<i>Natives.</i>
Extra blankets.	Extra blankets.
Water-proof sheets.	Water-proof sheets.
Jerseys.	Jerseys.
Mits.	Mits.
	Socks, woollen.

Also poshteens for sentries and guards.

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A.

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Also *poshteens* for sentries and guards.

I know little of the climate of the South-East Frontier or Burma, but I have heard that the Madras troops proceeding on *foreign service* to the latter country are supplied with many articles which they cannot wear, and which they usually sell in the Madras bazars *before* they embark! My informant was the commanding officer of a Madras regiment.

The latter part of this question does not apply to the regiments of this force, as they are now on field service.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Oudh Division.

(a) In all arms of the service, European commissioned officers, Native commissioned officers (and all staff non-commissioned officers who do not now carry firearms) should have revolver pistols as a part of their personal equipment.

Officers of both kinds should be supplied by Government at a reasonable cost.

(b) In all arms of the Service, wooden scabbards, covered with leather, should take the place of metal scabbards, which have the demerit of glittering very conspicuously, clanking, and destroying the edge of the blade.

They are easily made and easily replaced.

(c) A water-proof sheet for each man and a blanket.

In Afghanistan two blankets.

(d) In Afghanistan neemchas (half-armed poshteen jackets) are necessary (for night work especially) on picquet or other duties.

(e) A store cart per squadron of British cavalry (horsed regimentally) to carry the valises and other odds and ends which now overload the horses.

(f) Mule or pony carriage for infantry ammunition for one hundred rounds (including that in pouches) per man to be always kept up with the battalion.

(g) In all arms khaki-colored uniform should be the regulation dress for field service, so made as to be loose and comfortable in summer, and to be worn over cloth or serge in the winter.

As all equipments are kept complete, a regiment may be mobilized as soon as transport is available.

I assume that the expression "supposing that regiment is at full strength" means that no men are absent on furlough.

If I am incorrect, then all must depend upon circumstances.

Last year the 2nd Native Infantry was ready to move as soon as the Oudh and Rohilkund Railway authorities could form the necessary trains. The 25th Foot the same.

The 6th Native Infantry left Lucknow with similar despatch.

Lieutenant-General W. T. Hughes, C.B., Commanding Sirhind Division.

To suit an Indian climate, the present clothing of British troops should be altered in material and in make.

For a winter campaign in Afghanistan our troops should be supplied with small tents, to be carried on mules, and iron tent-pegs, with the sheepskin coat of the country (*neemchas*); with warm underclothing of all descriptions and warm gloves; with water-proof sheets lined with blanket; and with extra blankets. Each cavalry soldier should carry below his girths a water-skin (*mussenk*) capable of holding about one gallon.

The extra equipment having been supplied, it would take three days to mobilize a regiment in the Sirhind Division; because that is the shortest time within which transport cattle could be supplied by the Commissariat.

The troops could turn out ready for the field in three hours.

I consider regimental mule carriage required.

(a) No remark to make.

(b). Warmer clothing in Afghanistan and for service in cold climates.

A suitable dress of drab or stone color.

(a) Forty hours, provided the clothing, commissariat, and ordnance departments had everything ready.

N.B.—In a Native regiment men on furlough would be recalled by telegraph and join corps *en route*.

(b) Burma.—Would depend on marine department. Conveyance by steamer being procured and stores, &c., required supplied by departments, a regiment could embark in twenty-four hours. This was lately done in less time.

China.—The same, and in forty-eight hours.

South-Eastern Frontier.—In forty-eight hours, provided the Eastern Bengal Railway could supply sufficient carriages for a whole regiment in one journey.

There would, however, probably be a delay at Goalundo or Kooshtea, where difficulty would be experienced by marine department in arranging for conveyance by steamer.

Lieutenant-General J. Forbes, Commanding Mhow Division.

Major-General J. Ross, C.B., Commanding Presidency District.

Major-General A. H. Macintyre,
C.M., Commanding Hyderabad Sub-
sidiary Force.

A water-proof haversack should be worn by both officers and men : that at present in use by the men is unserviceable in wet weather, when provisions in them would be utterly destroyed.

All officers should carry revolvers. In the artillery, non-commissioned officers and drivers should be similarly armed. All revolvers to be of one general pattern.

A good water-proof sheet to be issued to every man. This might be worn in very bad weather by an opening being made in the centre. This could be laced up when used as a ground sheet.

Each small-arm ammunition cart to be provided with stout leather bags having leather covers. There should be one such bag per company, so that ammunition could be readily distributed to the troops in action. At present the reserve ammunition is generally issued from men's haversacks which should be otherwise employed.

Some commanding officers recommend a longer sword-bayonet than that now in use, with scabbard lined throughout with metal. The metal ends frequently come off the present leather scabbard.

Any corps of this force could be mobilized at the shortest notice.

Major-General R. O. Bright,
C.M., Commanding Meerut Division.

For a European regiment a water-proof helmet cover and water-proof sheet, pair of stout leather leggings, clasp-knife, and small tin-pot. Native infantry are fully equipped. Artillery and cavalry, European, same as European infantry. Native cavalry are fully equipped, but should have a pony to every horse for foraging purposes.

I have no experience of Burma, China, South-Eastern Frontier. For Afghanistan European infantry the same as in the plains, except that *puttees* should be substituted for leather gaiters. One suit of light clothing and helmet cover should be dyed khaki. In winter a warm suit of Native *puttees* should be provided.

Native infantry should be supplied with *puttees* for service in Afghanistan, and, if in winter, should have *poshterans*. Artillery and cavalry, European, same as European infantry. Native cavalry require *puttees* and extra ponies.

Every regiment is ready to proceed on service at the shortest notice. The only delay would be if carriage was required, which would be provided by the civil authorities.

Major-General H. R. Browne,
Commanding Sagar Division.

Camp equipment being at all times held complete in regimental charge, I do not know that (except as regards artillery who have generally to be supplied with their second line of wagons) any additional requirements exist for active service in the plains in India.

Of course, for service where the troops are likely to be exposed to severe cold and exceptional vicissitudes extra and suitable provision must be made, both for themselves and their followers, of blankets and articles of clothing. I do not quite understand the term "mobilize," which would ordinarily refer to the calling up of reserves. But if it refers to the time in which a regiment could be ready to move, twenty-four hours should complete all arrangements if the movement is by railway. If the regiment is to march, time must be allowed for collection of transport and supplies; and that will vary from five or six to fourteen days, according to the amount of transport required and the capacity of the district to furnish it.

Major-General J. W. Schneider,
C.M., Commanding Northern Division, Ahmedabad.

(a) I can only speak as regards Native troops, with whom I have been closely associated for a great portion of my military career. The recent changes in the clothing and equipment of Native infantry, *viz.*, the Zouave uniform with the vulvis, leave little or no room for improvement. The dress of the Native cavalry is being assimilated to that of the Bengal army.

(b) A better description of great-coat is needed for Native infantry. The one issued on the present scaled pattern may do for the plains of India, but for colder regions the great-coat should resemble the one used by British troops; that is to say, the cape should come well over the shoulders to protect the chest and back. It should fold well over to give warmth to the stomach, and have the usual strap at the back to make it fit closely to the waist. It should come well below the knee. Native infantry should also be supplied with English ammunition boots. The present sepoy's double pal should be reduced to half its present size, so as to be carried more easily by mules. They would also be more suitable for small detachments and garrisons.

Troops in this presidency are ready to move at all times. For the plains of India, it is only a question of transport. For foreign service, a few days should suffice; but here, again, all would depend on the transport service, and the departments of issue being able to provide the usual warm under-clothing for such service. Regiments of Native troops contain many married men whose families generally live in the lines. It takes a short time to arrange for family payments.

Brigadier-General G. Barrows,
Quarter-Master-General, Bombay
Army.

Brigadier-General H. H. A.
Wood, C.B., Commanding Deesa
Field Brigade.

Brigadier-General C. T. Aitchi-
son, C.B., Commanding Bombay Dis-
trict.

Brigadier-General F. G. Kemp-
ster, Commanding Ceded Districts.

Brigadier-General J. I. Murray,
C.B., Mooltan Brigade.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

A regiment of British infantry at Poona could be mobilized in four or five days either to proceed by rail or road.

A Native infantry regiment might be mobilized in three days.

(a) European artillery—water-proof sheets.

European infantry—ditto.

Native cavalry—none.

Native infantry—khaki clothing for fatigue duties and English-made boots.

(b) European artillery—water-proof sheets and extra blankets for Afghanistan.

European infantry—ditto ditto.

Native cavalry—water-proof sheets, warm under-clothing and socks, with *poshtees* for Afghanistan.

Native infantry—ditto ditto.

(c) Not calculating furlough men, and with detachments at Ahmedabad, Baroda, and Rajkot, and railway open only as far as Ahmedabad, from 10 to 20 days. This applies to the brigade, the detachments being at unequal distances.

(a) The so-called Zouave uniform, similar to that generally worn by the Native troops in the late expedition to Malta, is about the best dress for an infantry soldier; it is easy, comfortable, and military. The valise equipment is decidedly more serviceable than the old belts and knapsacks, but there is still much room for improvement; in fact improvements are already spoken of (the Oliver equipment for instance). Infantry should be supplied with two pairs of good English laced-boots.

For Natives the boots should be made to conform to the peculiar shape of their feet. It is strange how Native soldiers take to the ammunition boot. They should wear with them thick socks or bandages.

(b) Natives require a warmer great-coat for the cold months, also warm socks and gloves.

Provided the departments of supply are ready to comply with commanding officers' requisitions—

For service in the plains of India, troops would be ready to march in 24 hours.

For foreign service, would require from two to three days.

So far as the equipments for corps of the various arms, they are ample for the various services specified in question 1.

If the departments are provided with the equipments necessary for active service, a regiment in this district could be prepared to move by road or rail in 24 hours. The delay by road would be in carriage, as it would be necessary to apply to the civil authorities for such.

This would depend on whether the men were on furlough or not; but if all present, a few hours would suffice, provided the special equipments were in readiness.

(a) With the exception of water-proof sheets and the completion of the camp equipage, regiments should not require for campaigning in the plains of India, or in Burma, any additions to the clothing and equipment possessed by them in quarters. On the contrary, it would be necessary to reduce the ordinary kit by selecting such articles as might be most suitable for the special service, leaving those which were considered superfluous at the dépôt. Each British regiment has in regimental charge two-thirds of its camp equipage; and as it would be necessary to leave in a dépôt the sick, the women, and children, that quantity would probably amply suffice for the numbers who would take the field. The necessity for any addition to a soldier's kit for service *within* Indian limits would point, I think, to some radical defect in his clothing and equipment, which, if existing, should be rectified.

(b) As in Afghanistan, China, and all northern countries, the sepoys would have to be prepared to meet an unaccustomed degree of cold, it would be necessary to provide them with articles of warm clothing and a superior description of foot-covering to that which they generally wear.

The clothing of the British troops is, I consider, good and suitable, and requires but the addition of warm jerseys, drawers, gloves, and for extreme cold, fur or wadded coats, to enable them to meet without risk any changes of climate to which they might be exposed. The same cannot, however, be said of the dress* of the Native army of this presidency, which is in the highest degree unsuitable either for peace or war. It is neither ornamental nor comfortable; and, being tight-fitting, it is not possible to wear warm clothing with comfort under it. A uniform for Native soldiers

* Note.—A modification of the present uniform, which, though not altogether satisfactory, is an improvement on that now in use, was, on the recommendation of the Commander-in-Chief, sanctioned recently by the Government of Bombay, but has not yet received the approval of the Government of India.

which would be at the same time becoming and useful should, I think, be loose, and as nearly as possible approaching the style of clothes worn by well-dressed Natives who have not adopted European fashion. So inconvenient and unsuitable is the uniform of the Bombay Native infantry, that before sending them on service any where it would be necessary to provide them with a more appropriate dress. This army also has never had an authorized summer dress such as is universally worn in Bengal; and the great cost of introducing it in recent years, when, owing to famine and hard times, the sepoys were ill able to meet any extra charges, has prevented action being taken in the matter, although His Excellency the present Commander-in-Chief has initiated a commencement of this desirable reform. An assimilation of the dress of the Bombay Native infantry to whatever pattern of clothing has been found most suitable by the regiments which have recently been on service, and the grant of a small sum towards purchasing a summer dress for the sepoys, is most desirable, in order that, when called on for service, the additional requirements to complete their clothing and equipment may be few, and easily and rapidly supplied. Of even greater importance than the style and material of the dress of the Native soldier is the description and quality of the boot or shoe which he wears; but though this subject has probably been more frequently considered, and experimented on, than any other connected with the equipment of the Native army, a remarkable diversity of opinion still exists and no practical conclusion has yet been arrived at. Many officers of the highest knowledge and experience are convinced that the proper shoe for a Native soldier is the shoe worn by the class from which he comes; and the conclusion is sound so long as nothing more is required of him than of them. When, however, the Native of India is taken out of his own country into a climate such as that in Afghanistan or China, where he is called on to face a cold and a set of circumstances unknown in India, the arguments which are urged in support of the advantages of the Native shoe over that of European pattern cease to have any force. The objection to the English form of boot for a Native is that, in using it, he becomes footsore, which no doubt is often the case, as heretofore he has always been obliged to wear a boot made for a European foot and on European models, which is quite unsuited to him. The question of a foot-covering for Native soldiers was some time ago taken up and examined by an officer* of the Bombay army; and it appears to me that his conclusions are thoroughly sound and practical, and offer a more satisfactory solution of this vexed question than any I have yet met. Colonel Heathcote's views and the information he had collected appeared so valuable to the late Commander-in-Chief (Sir Charles Staveley), that he directed them to be published for the benefit of the officers of the Bombay army, and a copy of that portion of the report which was appended:—

*Lieutenant-Colonel Heathcote, 12th Native Infantry.

Adjutant-General's Circular No. 1009B, 4th April 1878.

Extract from report, dated 13th October 1877, from Lieutenant-Colonel C. T. Heathcote, on the fitting of boots, &c.

The great difficulty in obtaining properly fitting boots for the Native soldier is caused by their being made either on English lasts, or at least on lasts made in India from the English model.

The Native soldier, however, finds these English-shaped boots so much too small for him across the joints of the toes, that in order to get the requisite breadth there, he is obliged to choose them far too large for him in every other respect.

According to the British scale, No. 5 size is 10 inches in length, No. 8 is 11 inches, and No. 11 is 12 inches in length.

The difference between lasts prepared for a Native foot and lasts made for the British soldier is very marked, the Native infantry last being generally one inch broader in the joints and half an inch larger in the instep in the same length of foot. The great toe also comes out much straighter from the foot in Native soldiers, and therefore requires a different shape to be given to the sole of the boot; the toes also, being naturally set wide apart, necessitate a greater breadth in the toe of the boot; hence arose the question how to give sufficient space without making the boot look heavy and ugly. This difficulty will be overcome by sloping away the sole from the front towards the little toe or outside of the boot.

The total number of boots in a full set is 48; but I think this might be decreased to 38, by reducing 10 in the first six sizes, which are very seldom required, those in the most general use being Nos. 7, 8, 9, and 10 sizes.

The lasts of the sample boots which accompany this report were made by Messrs. Ullathorne and Co., 12, Gate Street, London, W. C., with whom I have left instructions regarding the peculiarity of shape required for the Natives of this country. They are prepared to make these lasts according to the specification attached for one shilling and ten pence a pair; and should His Excellency approve of the specification, a copy of it can be furnished to them for guidance in making the lasts.

SPECIFICATION.

Universal scale of sizes for lasts, lengths and magnitudes, for all boots and shoes for N. I. Regiments, East Indies.

Sizes.	Magnitudes.	Joints.	Insteps.	Sizes.	Magnitudes.	Joints.	Insteps.
1		8 inches	8½ inches.	7		9½ inches	10 inches.
2		8½ "	9 "	8		10 "	10½ "
3		9 "	9½ "	9		10½ "	11 "
4		9½ "	10 "	10		11 "	11½ "
5		10 "	10½ "	11		11½ "	12 "
6		10½ "	11 "	12		12 "	12½ "
7		11 inches	11½ inches.	13		12½ inches	13 inches.
8		11½ "	12 "	14		13 inches	13½ inches.
9		12 inches	12½ inches.	15		13½ inches	14 inches.
10		12½ "	13 inches.	16		14 inches	14½ inches.
11		13 inches	13½ inches.	17		14½ inches	15 inches.
12		13½ "	14 inches.	18		15 inches	15½ inches.
13		14 inches	14½ inches.	19		15½ inches	16 inches.
14		14½ "	15 inches.	20		16 inches	16½ inches.
15		15 inches	15½ inches.	21		16½ inches	17 inches.
16		15½ "	16 inches.	22		17 inches	17½ inches.
17		16 inches	16½ inches.	23		17½ inches	18 inches.
18		16½ "	17 inches.	24		18 inches	18½ inches.
19		17 inches	17½ inches.	25		18½ inches	19 inches.
20		17½ "	18 inches.	26		19 inches	19½ inches.
21		18 inches	18½ inches.	27		19½ inches	20 inches.
22		18½ "	19 inches.	28		20 inches	20½ inches.
23		19 inches	19½ inches.	29		20½ inches	21 inches.
24		19½ "	20 inches.	30		21 inches	21½ inches.
25		20 inches	20½ inches.	31		21½ inches	22 inches.
26		20½ "	21 inches.	32		22 inches	22½ inches.
27		21 inches	21½ inches.	33		22½ inches	23 inches.
28		21½ "	22 inches.	34		23 inches	23½ inches.
29		22 inches	22½ inches.	35		23½ inches	24 inches.
30		22½ "	23 inches.	36		24 inches	24½ inches.
31		23 inches	23½ inches.	37		24½ inches	25 inches.
32		23½ "	24 inches.	38		25 inches	25½ inches.
33		24 inches	24½ inches.	39		25½ inches	26 inches.
34		24½ "	25 inches.	40		26 inches	26½ inches.
35		25 inches	25½ inches.	41		26½ inches	27 inches.
36		25½ "	26 inches.	42		27 inches	27½ inches.
37		26 inches	26½ inches.	43		27½ inches	28 inches.
38		26½ "	27 inches.	44		28 inches	28½ inches.
39		27 inches	27½ inches.	45		28½ inches	29 inches.
40		27½ "	28 inches.	46		29 inches	29½ inches.
41		28 inches	28½ inches.	47		29½ inches	30 inches.
42		28½ "	29 inches.	48		30 inches	30½ inches.
43		29 inches	29½ inches.				
44		29½ "	30 inches.				
45		30 inches	30½ inches.				
46		30½ "	31 inches.				
47		31 inches	31½ inches.				
48		31½ "	32 inches.				

These lasts to be made similar to those supplied to the War Office, with the following exception. They should be low in the instep, and not much hollowed out underneath—broad at the joints, and straight in the great toe.

This question is best replied to by the following statement of facts.

The official orders for the batteries and regiments to proceed to Malta were issued on the 18th April 1878; and they left their stations for embarkation on the 23rd, 24th, 25th, and 26th of the same month.

The batteries which were quartered in Sind and proceeded to Cabul were reported ready to march fourteen days after receiving the order of readiness.

In all the above cases the regiments and batteries had to be made up to their full strength by volunteers from other corps; and in the case of the artillery, horses had to be supplied to complete the war establishment, and replace all those not considered thoroughly efficient for service.

(a) I consider the present equipment very well suited for the plains of India.

(b) I would suggest a lighter kind of tent for Afghanistan and for any hilly country. Those issued to the camp-followers in the late campaign would be very useful for the troops for a short time and in very bad country where camels could not go.

It is impossible to say how long it would take to so mobilize a regiment, as I have had so little experience in the plains of late years. I know that it takes nearly a week, in the present system, to move a regiment of Goorkhas in our hill stations.

The extra clothing and equipment depends much on season and circumstances.

Usually every soldier or follower sent on service to Burma, China, or South-Eastern Frontier should be supplied with one pair boots or shoes, two pairs warm socks, one pair leg-bandages, one water-proof sheet; and each follower should have an extra blanket in addition.

In the plains of India leg-bandages or gaiters might be dispensed with.

For service on the north-west frontier in very advanced positions such as Afghanistan, or in severe climates, the men should have in addition, but omitting leg-bandages—

- 1 jersey,
- 1 extra blanket,
- 1 pair mittens,

and wadded coats or *poshleens* at, say, 15 per cent. of strength for guard and sentry duties.

Colonel J. A. Tytler, C.B., V.O.,
Commanding 4th Goorkhas and
lately Commanding a Brigade.

Colonel H. K. Burne, C.B., Secre-
tary to Government of India, Mil-
itary Department.

The question of equipment generally is now being considered by a specially selected committee.

Colonel J. Macdonald, c.n., Secretary to Government, Bombay.

(a) I do not think any thing more is requisite than what is now possessed by the troops, if employed on active service in the plains of India or in a climate similar to that of India. Probably some of the ordinary kit of the soldiers, both European and Native, might be found not absolutely necessary.

(b) But for a campaign in cold or excessively wet countries beyond India, special warm clothing, such as jerseys, socks, drawers, mittens, gloves, comforters, or woollen wraps, and water-proof sheets, should be issued to both the European and Native soldiers. One important item of the Native soldier's dress requires special care, in order that what is thoroughly suitable of the kind may be provided, *viz.*, the boot. The boot for the Native soldier, as now made, generally causes the men to become footsore. This arises from inattention to the marked difference between the feet of Europeans and those of Natives of India. The feet of most European soldiers are more or less distorted from wearing, when young, shoes which cramped the foot. Amongst Natives, on the contrary, a shoe is worn but occasionally, and is of a form which prevents the foot being distorted. If the upper portion of the foot needed no special protection, nothing could be better than the *Murathi powder*, or sandal; but as the soldier's foot must be protected all over, the European shoe, made to fit the foot easily and evenly, is the best protection that can be devised. Colonel Heathcote of the Bombay Army has, I believe, gone thoroughly into this matter, and has submitted some very practical recommendations on the subject to Army Headquarters.

The dress of the Native soldier serving on this side of India is not satisfactory. Attempts have been made to improve the uniform, and make it more suitable to the wearer. But these attempts to secure a better style of dress have up to the present date proved unsuccessful, owing perhaps to similar efforts in other quarters not having gained the desired end, owing also to the intended improvement involving some slight increase of expenditure.

The mistake, I think, is in attempting to make a Native soldier in appearance an exact imitation of the British soldier. It is an open question whether the British soldier is even now suitably dressed; but there is no doubt in my mind that the Native soldier's uniform requires considerable alteration. The tight-fitting tunic and trousers are quite unsuitable, and instead a looser garment, partaking more of the characteristic of ordinary Oriental costume, should be adopted.

It was said some years ago, when a modified Zouave costume was proposed as the dress of the Native army, that it would be very inexpedient to attempt so radical an alteration, on account of the suspicion and disquiet that would be engendered in the minds of the men. I think it may be admitted that the time has now arrived when the Native army would accept without suspicion or dislike any style of clothing which would add to their efficiency, so long as it was sufficiently distinctive to ensure their being recognized as soldiers in the service of Her Majesty.

From a week to ten days. This time might be required to bring batteries up to their war establishment of horses, which under existing circumstances can only be effected by drafting them from other batteries and also to admit of the volunteers for regiments being collected and incorporated.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

The additional requirements of corps proceeding on active service are—

(a) Additional horses for horse and field artillery, as at present sanctioned; extra hospital establishment and doolie-bearers; camp equipage according to the season of the year; commissariat establishment. Organized transport is most necessary for the above. In addition, a suitable dress for service (treated of hereafter in reply to query 17).

However, when troops are merely required for political demonstrations, and fighting or prolonged absence from quarters is not anticipated, I should move troops with reduced equipment.

(b) Same as above, but organized transport (again most necessary) suitable for the different countries, and depending on the nature and supplies of transport obtainable.

In Afghanistan, camels, elephants, ponies, and mules.

In China, wheeled carriage (imported), where country admits of it. Coolies in other parts of the country.

In Burma, coolie transport.

Patterns of carts and harness for wheeled carriage; boxes for siege, heavy, field, and mountain artillery ammunition; slings for small-arm ammunition; saddles, pads, and slings, all tested and approved, should

The total number of boots in a full set is 48; but I think this might be decreased to 38, by reducing 10 in the first six sizes, which are very seldom required, those in the most general use being Nos. 7, 8, 9, and 10 sizes.

The lasts of the sample boots which accompany this report were made by Messrs. Ullathorne and Co., 12, Gate Street, London, W. C., with whom I have left instructions regarding the peculiarity of shape required for the Natives of this country. They are prepared to make these lasts according to the specification attached for one shilling and ten pence a pair; and should His Excellency approve of the specification, a copy of it can be furnished to them for guidance in making the lasts.

SPECIFICATION.

Universal scale of sizes for lasts, lengths and magnitudes, for all boots and shoes for N. I. Regiments, East Indies.

Sizes.	Magni- tudes.	Joints.	Insteps.	Sizes.	Magni- tudes.	Joints.	Insteps.
1	1	8 inches	8½ inches.	7	7	9½ inches	10 inches.
8½ inches	2	8½ "	9 "	10½ inches	8	10½ "	10½ "
	3	9 "	9½ "		9	11 "	11½ "
	4	9½ "	10 "		10	11½ "	12 "
2	5	10 "	10½ inches.	8	11	12 inches	12½ inches.
9 inches	6	10½ "	11 "	11 inches	12	12½ "	13 "
	7	11 "	11½ "		13	13 "	13½ "
	8	11½ "	12 "		14	13½ "	14 "
3	9	12 inches	12½ inches.	9	15	14 inches	14½ inches.
9½ inches	10	12½ "	13 "	11½ inches	16	14½ "	15 "
	11	13 "	13½ "		17	15 "	15½ "
	12	13½ "	14 "		18	15½ "	16 "
4	13	14 inches	14½ inches.	10	19	16 inches	16½ inches.
10 inches	14	14½ "	15 "	11½ inches	20	16½ "	17 "
	15	15 "	15½ "		21	17 "	17½ "
	16	15½ "	16 "		22	17½ "	18 "
5	17	16 inches	16½ inches.	11	23	18 inches	18½ inches.
10½ inches	18	16½ "	17 "	12 inches	24	18½ "	19 "
	19	17 "	17½ "		25	19 "	19½ "
	20	17½ "	18 "		26	19½ "	20 "
6	21	18 inches	18½ inches.	12½ inches	27	20 inches	20½ inches.
11 inches	22	18½ "	19 "		28	20½ "	21 "
	23	19 "	19½ "		29	21 "	21½ "
	24	19½ "	20 "		30	21½ "	22 "

These lasts to be made similar to those supplied to the War Office, with the following exception. They should be low in the instep, and not much hollowed out underneath—broad at the joints, and straight in the great toe.

This question is best replied to by the following statement of facts.

The official orders for the batteries and regiments to proceed to Malta were issued on the 18th April 1878; and they left their stations for embarkation on the 23rd, 24th, 25th, and 26th of the same month.

The batteries which were quartered in Sind and proceeded to Cabul were reported ready to march fourteen days after receiving the order of readiness.

In all the above cases the regiments and batteries had to be made up to their full strength by volunteers from other corps; and in the case of the artillery, horses had to be supplied to complete the war establishment, and replace all those not considered thoroughly efficient for service.

(a) I consider the present equipment very well suited for the plains of India.

(b) I would suggest a lighter kind of tent for Afghanistan and for any hilly country. Those issued, to the camp-followers in the late campaign would be very useful for the troops for a short time and in very bad country where camels could not go.

It is impossible to say how long it would take to so mobilize a regiment, as I have had so little experience in the plains of late years. I know that it takes nearly a week, in the present system, to move a regiment of Goorkhas in our hill stations.

The extra clothing and equipment depends much on season and circumstances.

Usually every soldier or follower sent on service to Burma, China, or South-Eastern Frontier should be supplied with one pair boots or shoes, two pairs warm socks, one pair leg-bandages, one water-proof sheet; and each follower should have an extra blanket in addition.

In the plains of India leg-bandages or gaiters might be dispensed with.

For service on the north-west frontier in very advanced positions such as Afghanistan, or in severe climates, the men should have in addition, but omitting leg-bandages—

- 1 jersey,
- 1 extra blanket,
- 1 pair mittens,

and wadded coats or *poshtees* at, say, 15 per cent. of strength for guard and sentry duties.

Colonel J. A. Tytler, C.B., V.O.,
Commanding 4th Goorkhas and
lately Commanding a Brigade.

Colonel H. K. Burne, C.B., Secre-
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9½ inches ..	9	"	9½ "	11½ inches ...	10½	"	10½ "
	9½	"	9½ "		10½	"	10½ "
	9½	"	10 "		10½	"	11½ "
4	9	8½ inches	9½ inches.	10	10½	10½ inches	10½ inches.
9½ inches .	9½	"	9½ "	11½ inches ...	10½	"	10½ "
	9½	"	10 "		10½	"	11½ "
	9½	"	10 "		10½	"	11½ "
5	9	9 inches	9½ inches.	11	10½	10½ inches	11 inches.
10 inches .	9½	"	9½ "	12 inches ...	10½	"	11½ "
	9½	"	10 "		10½	"	11½ "
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10½ inches ..	10	"	10 "	12½ inches ...	10½	"	11½ "
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and padded coat or *poshteen* at, say, 15 per cent. of strength for guard and sentry duties.

Colonel H. K. Burne, C.B., Secre-
tary to Government of India, Mil-
itary Department.

The question of equipment generally is now being considered by a specially selected committee.

Colonel J. Macdonald, C.B., Secretary to Government, Bombay.

(a) I do not think any thing more is requisite than what is now possessed by the troops, if employed on active service in the plains of India or in a climate similar to that of India. Probably some of the ordinary kit of the soldiers, both European and Native, might be found not absolutely necessary.

(b) But for a campaign in cold or excessively wet countries beyond India, special warm clothing, such as jerseys, socks, drawers, mittens, gloves, comforters, or woollen wraps, and water-proof sheets, should be issued to both the European and Native soldiers. One important item of the Native soldier's dress requires special care, in order that what is thoroughly suitable of the kind may be provided, *viz.*, the boot. The boot for the Native soldier, as now made, generally causes the men to become footsore. This arises from inattention to the marked difference between the feet of Europeans and those of Natives of India. The feet of most European soldiers are more or less distorted from wearing, when young, shoes which cramped the foot. Amongst Natives, on the contrary, a shoe is worn but occasionally, and is of a form which prevents the foot being distorted. If the upper portion of the foot needed no special protection, nothing could be better than the Marathi *powdee*, or sandal; but as the soldier's foot must be protected all over, the European shoe, made to fit the foot easily and evenly, is the best protection that can be devised. Colonel Henthote of the Bombay Army has, I believe, gone thoroughly into this matter, and has submitted some very practical recommendations on the subject to Army Headquarters.

The dress of the Native soldier serving on this side of India is not satisfactory. Attempts have been made to improve the uniform, and make it more suitable to the wearer. But these attempts to secure a better style of dress have up to the present date proved unsuccessful, owing perhaps to similar efforts in other quarters not having gained the desired end, owing also to the intended improvement involving some slight increase of expenditure.

The mistake, I think, is in attempting to make a Native soldier in appearance an exact imitation of the British soldier. It is an open question whether the British soldier is even now suitably dressed; but there is no doubt in my mind that the Native soldier's uniform requires considerable alteration. The tight-fitting tunic and trousers are quite unsuitable, and instead a looser garment, partaking more of the characteristic of ordinary Oriental costume, should be adopted.

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However, when troops are merely required for political demonstrations, and fighting or prolonged absence from quarters is not anticipated, I should move troops with reduced equipment.

(b) Same as above, but organized transport (again most necessary) suitable for the different countries, and depending on the nature and supplies of transport obtainable.

In Afghanistan, camels, elephants, ponies, and mules.

In China, wheeled carriage (imported), where country admits of it. Coolies in other parts of the country.

In Burma, coolie transport.

Patterns of carts and harness for wheeled carriage; boxes for siege, heavy, field, and mountain artillery ammunition; slings for small-arm ammunition; saddles, pads, and slings; all tested and approved, should

be kept in every arsenal in view to being made up when required; but a reserve of each should at all times be available and kept ready for urgent and immediate issue.

Experience has been gained on all the above points; boxes made and tried for carriage of ammunition under different conditions; and I consider that, with our knowledge fresh, no time should be lost in settling definitely the various patterns for future use.

For coolie transport, it was found in China that, to enable the guns and stores to keep up with the infantry, no loads should be beyond the easy carrying-powers of four coolies at an average of 50lbs. each. It will of course be better if they can be arranged for two men. Any excess, however, over four was found to impede materially the movements of the column; and when in command of columns, I always, as far as possible, arranged for loads of 100 lbs., and not exceeding 200 lbs.

This should be borne in mind when fixing loads for coolie carriage in mountainous or hilly districts.

I have no experience as to how long it would take to mobilize a regiment for the various services; but it must mainly depend on the provision of carriage and transport required.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

(a) I have not sufficient knowledge of the requirements of cavalry and artillery to give a reliable opinion as to what additions to their equipment would be desirable, except in so far as my recommendations for infantry would apply to all arms.

Tents.

I think that the cumbersome European privates and staff sergeants' tents might be given up, except for standing camps or for hot weather campaigning. For all marches in the cold weather I think that roomy pal tents, with double flies, might with great advantage be substituted. They should be lighter and less cumbersome than the present sepoy pal, which requires an immense number of pegs to pitch it properly. Poles might with great advantage be made in two pieces, with strong iron sockets. If properly made, they would not be liable to break; while they would be much more easily carried than the present long poles, which are most awkward to carry even on camels, and hardly possible to carry on mules.

The tents might be so constructed, that the sections could be carried by mules, if necessary; although carts or camels would be the ordinary means of transport in the plains of India.

Cooking utensils.

Cooking utensils should be made so as to fit conveniently into either mule or camel kajawals. They should also fit into each other, in such numbers as could be readily carried by mules, and would balance properly. This being done, they would of course be equally easily carried by camels or elephants.

Men's kits.

Men's kits should be so packed as to be more compact than at present.

Ammunition.

Every regiment should undoubtedly have its own train of mules or ponies for the reserve ammunition. Baker Pasha describes how well provided the Turks were in this respect. Distribution of ammunition on the field should be frequently practised by all regiments.

Accoutrements.

I strongly advocate the abolition of pipeclay and blacking, and the adoption of brown leather belts with bronze mountings. They could be cleaned with soft soap, and, if properly cared for, would look well and last long. The present expense pouch is very bad. It swings about; is apt to tear away from the belt; and ammunition is very apt to be lost out of it. A number of pouches distributed along the waist-belt, made of sound but not too stiff brown leather, and easily opened, would make the weight much less felt, while the packets of ammunition could easily be got at.

For loose cartridges the sort of "bandoleers" carried by the guide infantry are the best I have seen; and I think the plan should be universally adopted. The ammunition is safely carried and very easily got at. The "plastron" on which the "bandoleers" are sewn should be removable, and capable of being fastened by buttons to any coat, including the great-coat.

Water-supply.

For marches where water is scarce, it should be carried in casks, which are cleaner and less liable to leak than *puckals*. The soda-water bottle carried by the soldier is nearly useless. It is heavy, fragile, inconvenient in shape, and holds very little; while water soon becomes

heated in it. A semi-circular and somewhat concave bottle made of ebonite or vulcanite, and covered with felt, is the best vessel for carrying liquids and keeping them either hot or cold.

Next to this the Afghan tin water-bottle, also covered with felt, is about the best I have seen.

Supplies.

The carriage of supplies is a most important subject. The march of troops is constantly delayed by want of system in this respect. All bags or boxes containing stores for consumption should be of such weight and size as to be easily carried by pack-animals. At present many loads are very inconvenient to carry, and animals are constantly throwing their loads in consequence.

Dress.

I look upon the present infantry tunic as a very bad coat. It is badly cut, made of hard stiff cloth, and confines the movements of the wearer. It is a notorious fact that, to give a single instance, men cannot shoot properly in tunics, it being absolutely impossible for them to get the butt of the rifle into the hollow of the shoulder. It is universally admitted that khaki is the best color for service; and every regiment should have one warm and two light suits of that color. The warm suit might be of Kashmir *puttoo*, or warm serge. If the former, orders should be given for large quantities of it, so as to enable the wool to be well mixed and the whole cloth thereby woven of one color.

It might be more economical to dispense with the warm khaki suit, and allow the ordinary serge suit to be worn under the light khaki in cold weather. This plan, however, although convenient enough as regards the coat, is not equally so in the case of trousers, two pairs of which must considerably interfere with a man's movements.

The best sort of coat is a loose Norfolk jacket, giving perfect freedom to the arms. Trousers should be cut loose at the hips and knee, and tight round the ankle.

On the march it is best to tuck them into the socks, and wind Kashmir bandages or *puttees* spirally round the leg from ankle to knee. These are more easily removed or put on than any gaiter; and they are more comfortable.

A thoroughly good boot for the British infantry soldier has yet to be invented; but after a long trial I have come to the conclusion that there is no boot so well adapted to the cavalry or artillery soldier as the pattern known as "The Elecho." It is equally good for walking or riding; it is extremely comfortable; it can be easily put off or on, even when wet; and it looks neat and serviceable.

The above remarks are intended to apply to British troops; but I consider that most of them are equally applicable to Native troops. They would be more comfortable and would look better in Norfolk jackets or blouses than in the short jackets which are usually worn, and which are, in my opinion, neither handsome nor serviceable.

(b) Of Burma and China I have no knowledge. In Afghanistan my recommendations for the plains of India would generally hold good; but on account of the hilly and rocky nature of the country I would recommend that as regards—

Tents.

Small pal tents made of two folds of American drill dyed khaki color, with jointed poles of male bamboo and iron tent pegs, should be substituted for the larger pals which I propose for use in India. Each tent should cover a space of about 8 feet square, which would afford sleeping accommodation for four men.

Mule carriage only should be provided for the conveyance of these tents and also of men's kits, and such supplies as would be likely to be required off the line of road.

For these mules (or ponies) proper pack-saddles should be supplied. The commissariat or Yarkund pattern with wooden and iron tree is by far the best. If properly stuffed, they never give sorebacks.

The native *putana*, or any modification of it that I have seen, is constantly getting out of place. The pressure of the load comes upon the spine, and speedily renders the animal useless; or loads slip off and cause endless delay.

Dress.

For a winter campaign in Afghanistan additional warm clothing is necessary. A good thick guernsey, extra thick warm socks, and a "Balaklava cap" for sleeping in, would probably meet all requirements.

A proportion of good roomy *poshteens* for guards would be very useful; but I do not like them for marching or ordinary duties.

On the South-Eastern Frontier the following modifications of equipment recommended for the plains of India would be desirable :—

Tents.

Instead of tents, which become heavy and ultimately rotten in the damp and rainy climate of the South-Eastern Frontier, it would be well to substitute water-proof sheets and paulins, which can be stretched over frames of bamboo or cane, which are so readily procurable in those regions.

Ammunition.

As mules or ponies are quite unsuited to the climate, and could not be taken in most places, reserve ammunition should be carried by specially enlisted and trained coolies. They and elephants should be the only carriage employed, except where water transport is possible.

Dress.

A warm suit would be unnecessary; but a third suit of American drill might be substituted.

Each man should be supplied with a water-proof coat; and extra heavy coats with "sou-westerns" might be provided for sentries.

According to the present scale, a regiment could not be efficiently mobilized with three days' provisions at Lundi Kotal within a week. It took a week to procure sufficient carriage for the 17th Regiment to move to Peshawar on the 14th August. The difficulties of maintaining transport animals in an efficient state at Lundi Kotal are very great.

Captain M. J. King-Harman,
Deputy Assistant Quarter-Master-
General.

Regiments of Bengal cavalry, as well as all regiments and batteries of the Punjab Frontier Force, appear to need few additional requirements. All British regiments and batteries require—

- (1) light serviceable tents for all ranks;
- (2) water-proof sheets;
- (3) entrenching tools;
- (4) *kajawaks*;
- (5) slings* of leather or gunny in which to carry the boxes of ammunition;
- (6) properly constructed cooking-pots, as those now in use are not suitable for mule carriage and require constant tinning;
- (7) transport.

All regiments of Bengal infantry require—

- (1) light tents for officers;
- (2) slings* of leather or gunny in which to carry the boxes of ammunition;
- (3) entrenching tools *suited to the habits of the men* (not only spades and picks), composed of (a) *phowrahs*,† (b) picks, and (c) axes;
- (4) *kajawaks* for carrying them;
- (5) an addition to their rations of *rum* or *tea*, sugar,‡ spices, and tobacco, to be supplied by the commissariat at all times on payment; also onion or garlic;
- (6) water-proof sheets;
- (7) woollen socks, gloves, and jerseys, if in a cold climate;
- (8) transport.

With regard to the provision of *suitable* entrenching tools—a point which, I venture to submit, has not received sufficient attention—no one would think of giving a Native a knife and fork to eat his dinner with; and yet he is provided with spades and shovels (implements that he has never seen until he joined the service, and with which he has only a few days' practice yearly while he is in the ranks) with which to throw up entrenchments to assist in the defence of India, in place of being given that most useful of tools—the *phowrah*†—which he has been accustomed to handle and use from his earliest childhood.

The question regarding the provision of light camp equipage is also, I would submit, worthy of much consideration.

* A sufficient number of these slings for the mule carriage of the first reserve should be in possession of every regiment. The pattern recommended by the Simla Committee of July 1879 is the best.

† Lord Napier of Magdala and Sir Frederick Roberts both know the value of the *phowrah* or *manoolie*.

‡ During the China war of 1860 the men received free—

	lbs.	oz.
Rice or flour	...	2 0
Dhal	...	0 4
Ghee	...	0 2
Salt	...	0 3
Firewood	...	2 0
Turmeric	...	0 1
Sugar	...	0 3
Pepper	...	0 1

Meat twice a week.

Tobacco, § oz., might be taken instead of sugar, if preferred. *Rem*, opium, and *tea* were issued on payment; also onions, garlic, tamarinds, and chillies when on boardship.

The above scale should be sanctioned in general orders in supersession of the present reduced scale.

The present large tent, known as the "European privates' tent," is costly, heavy, and unsuited for a campaign, even in the plains of India.

A tent exactly similar to the present sepoy pāl, but provided with an outer fly, is in every way suitable for the shelter of British soldiers in the plains of India, and is at the same time lighter and cheaper than the large tent now in use. For forced marches in the plains, or for service in the hills or anywhere beyond the actual base of operations, the outer fly would be left behind.

I would therefore suggest that all regiments of British infantry and cavalry and batteries of artillery be provided with these tents as quickly as they can be made up either new, or by cutting down and altering the present large ones; also that the present sized "European privates' tent" be no more used except for hospitals in the second line, or at the base, when on service, or for camps of exercise. I would further suggest that these pāls be made in two sizes, so as to enable shelter to be provided for detached pickets, &c., on service, as well as for guards and escorts; and also that this be made applicable to Native infantry regiments as well as British.

I maintain that a pāl, with an outer fly, affords just as much comfort in *all* weather as a "European privates' tent," besides being cheaper and more serviceable in every way; and their adoption will result in increased efficiency, combined with decreased expenditure.

2. Is the present organization adapted to the requirements of troops on active service?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

I do not touch on the question of the organization of British troops, because it is now under consideration in England. But I may say generally that the regimental organization is satisfactory; all that is needed is a proper machinery for maintaining regiments at their established strength. Assuming that the question here put refers to regimental organization, I consider that the present system, so far as it goes, is practically sound. The main defect is its want of elasticity. The regimental units are too small for war, and there is absolutely no arrangement for increasing regiments, save by recruitment, when war breaks out. The defect here mentioned is capable of remedy in various ways. But my idea is that our army in India should always be on a war footing. That is, it must always be prepared for war in every respect except transport. It is a mere truism which cannot be blinked; and we should drop out of sight the term "peace establishment" as understood in national armies. It is not to be inferred from this that I advocate the establishment of bloated armaments. Far from it. I should like to see the armies of India reduced to the lowest figure compatible with perfect security; but every unit of that army should be a complete fighting machine, requiring nothing but the motive-power to set it going. To effect this object, our regiments must be increased in strength, and their numerical number must be reduced. As the strength of the army must at all times be equal to the maintenance of peace and order within our own borders, it may be assumed that it will be capable of crushing any opponent within these limits without adding a single man to our ranks. It may be noted that I am not taking the question of external war into account, and by "external war" I mean war with countries not continuous with India. I do not think India is bound to maintain warlike establishments for the purpose of meeting the contingency of external war. If, however, the theory of a peace establishment is to be admitted, it must involve many radical changes—changes which I need not here speak of, as they will no doubt be better dealt with by those who advocate the system aimed at. Before quitting this subject, I would beg to say a few words on the question of reserves, as it is very generally considered essential to the efficiency of any standing army that India is likely to keep on foot. If we are prepared to disturb the existing pension arrangements, we might secure a class of reserve men who would be sufficiently trustworthy and perfectly capable of taking the place in garrison of the regular troops in time of war. The following arrangements would provide reserves on a principle which is not open to serious objections—

- (1) recruits to be enlisted for ten years only;
- (2) soldiers who are in all respects unexceptionable to be allowed to re-engage for a further period of five years;
- (3) men who are still fit for service and likely to continue so to be passed into the reserve on the completion of the second period of engagement, unless they have immediately become non-commissioned or commissioned officers;
- (4) after a service of fifteen years in the reserve soldiers to be entitled to pension;

- (5) men becoming unfit for further service in the reserves after periods of five and ten and under fifteen years respectively to be discharged with small gratuities;
- (6) commissioned and non-commissioned officers to be entitled to pension after 28 years' service on full pay. Men entitled to pension should have the power of claiming them at will, and commanding officers should be empowered to enforce retirements at will.

The strength of the reserves could be regulated from time to time by the Government, as no man should be allowed to claim admission to the reserve force as a right. The regimental reserves should invariably be kept together and formed into companies; the companies of two, three, or four battalions being formed into regiments for training and duty when called out. After a few years' training the men would know each other, and work harmoniously together. These reserve battalions would naturally and usually be employed in their own provinces; though they would be required to serve in any part of India in case of need. The training and organization of these reserve battalions are matters of detail; and I do not here enter on them, as I have already written more than most people will care to read. They are, however, very important matters of detail, and require much consideration.

Lieutenant-General C. T.
Chamberlain, C.S.I., late Com-
manding Oudh Division.

Most certainly it is *not*! Deducting sick, escorts, guards, and depot requirements (which include sundry distinct recruiting parties, composed of the best non-commissioned officers and men from each of the classes represented), regiments can only parade in "skeleton form" at the commencement of a war; and there are no reserves!

The composition of most corps necessitates enlistments from districts scattered far and wide, causing not only inconvenience, but also considerable delay. There is *something*, of course, to be urged in its favour, because it was deliberately adopted after much consulting and writing; but I myself have always ventured to hold a very opposite opinion, and I have no hesitation in saying it is *unwholesome*.

As in the old Bengal army the mischief arose from all the 74 regiments being composed of one class, so now-a-days two-thirds or more of the existing battalions are so similarly represented by mixing up Sikhs, Pathans, Punjabis, Hindustanis, and so on, that there is much reason to apprehend that, in time of popular disturbance, many regiments would be contaminated by the general friendship which has come to spring up by years of association; and one corps could not be pitted against a disaffected one with the confidence that would exist if class regiments (*and especially local regiments*) were the rule instead of the exception.

Field operations had not commenced in the North-West ere desertions occurred amongst the Afridis and Pathans, who had no stomachs for fighting their own kith and kin.

Throughout the war, there has been an unpleasant feeling of want of confidence in those classes. It is only human to object to fight one's own relations and friends, and it is therefore not so much the fault of the men (if their national sympathy overcame their allegiance) as the *system*!

What has happened amongst the Afridis and Pathans may any day occur amongst the Sikhs, or others, if similarly tried; and it is needful now, when a special commission is scrutinizing "army reform," to go well into this question of organization which is valuable or valueless, according to the stability of the *sub-structure*.

No one will deny that the fidelity of the bordermen was tremendously strained; and had the fate of the sword been against us at the Peiwar or Ali Musjid, what would have become of the Pathans in our ranks at those places?

It is hard upon them to hold them at a discount as they are at present; for if employed *anywhere but against their own kith and kin*, they would render admirable and faithful service as they have done for years past.

(b) *The present organization necessitates extra transport*; for Brahmans, Sikhs, and Pathans require separate cooking vessels.

It is worth while considering now-a-days whether the former class could not be considerably decreased in numbers. The different sects of Brahmans do not eat together! There are Doobees, Trebadies, Opadiah, Chowbeys, Missirs, Awusteers, Tewarries, each and all of whom eat separately; and it can hardly be a happy state of military organization if their peculiar fancies are to be acknowledged and provided for.

Anyhow it would be well to endeavour to dispense with as many iron buckets and other weighty "necessaries" (so-called) as possible.

This matter of organization will again be discussed in answer to question 7.

Lieutenant-General W. T. Hughes,
C.B., Commanding Sirhind Division.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

Major-General J. Ross, C.B.,
Commanding Presidency District.

Major-General A. H. Macintyre,
C.B., Commanding Hyderabad
Subsidiary Force.

Major-General R. O. Bright, C.B.,
Commanding Meerut Division.

Major-General H. B. Browne,
Commanding Sagar District.

Major-General J. W. Schneider,
C.B., Commanding Northern Divi-
sion, Ahmedabad.

Brigadier-General G. Barrows,
Quarter-Master-General, Bombay
Army.

Brigadier-General H. H. A.
Wood, C.B., Commanding Deesa
Field Brigade.

Brigadier-General C. T. Aitchi-
son, C.B., Commanding Bombay
District.

Brigadier-General F. G. Kemp-
ster, Commanding Ceded Districts.

I think not; it does not ensure the presence with the colors of all the British officers of a Native regiment when that regiment takes the field.

Yes, with the exception of transport; and I do not consider the number of European officers with Native regiments sufficient.

No, there are wanting the means of supplying troops in action with the first reserve of ammunition.

The same with entrenching tools. A scale of dhao and bill-hooks to be carried on service in Burma and South-Eastern Frontier.

The present organization of troops of the British service is satisfactory.

In regiments in the Indian service I consider the number of European officers too small to meet the requirements of troops on active service.

Yes, I consider it is.

I think not. The troops assembled for active service have no previous relations with each other, nor are the staff of divisions and brigades previously acquainted with them. In point of establishments I think requirements are exceeded. The troops could well perform many of the duties in which they are now assisted. The transport service requires better organization.

In my opinion, the present organization is not adapted to Native regiments for foreign service, owing to the paucity of British officers. The evil is fully recognized by those who have served with and commanded, and who understand, Native troops. We are endeavouring to place a responsibility on Native officers for which they admit and generally show themselves to be unfit. I believe that no education or training will make the Native officer a substitute for the British officer. They rise from the ranks, and, when once they throw off their uniform, they mix on social equality with other grades. The suggestion that Native gentlemen should be granted commissions direct into Native infantry regiments can only have arisen from a misconception of the feelings of that class. The Native chief or landowner rides from his earliest youth: to walk is the mark of inferiority.

In my opinion, the present organization of the Native infantry regiments is not adapted to the requirements of troops on active service.

The Native regiments are, in my opinion, under-officered (European). Lord Napier of Magdala, who advocated what is termed the new organization, was, when the time came, afraid to put it to the test, as shown by officers being attached to those regiments employed in the Abyssinian campaign.

Yes, as regards British troops, although I would prefer the regimental unit (a company) double its present strength.

If a British regiment was 1,000 rank and file strong instead of 800, a considerable saving would result, as some 8 or 10 regiments might then be sent home.

As regards Native troops—I am referring of course to the army of this presidency—I do not believe that the Native infantry officer is, as a rule, competent to command a company on service, unless under the eye of a British officer.

I consider one British officer to every company in the field absolutely necessary.

I have no confidence whatever in the present organization for the field.

This opens out a large question, and one which has been so fully discussed, that it seems superfluous to go over the same ground, it having been determined to maintain the present organization (in Native regiments); but my opinion is, that the present number of European officers in Native regiments is totally insufficient to sustain the strain of war.

In time of peace, the ordinary duties in garrison can be carried on with the present number, so long as the regiment is not split up into detachments.

The Native officers as a body are much improved, and show a greater degree of efficiency than formerly; but when difficulties and responsibilities arise, I doubt their being equal to the occasion.

If the present strength of European officers is to remain so, the only plan is to have linked battalions, the battalion remaining in garrison to supply the battalion going on service with extra officers; or double up the present weak battalions and make one strong regiment. By so doing greater efficiency would be gained and a great saving of expense to the State.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

I presume that this question refers to army, not regimental, organization.

We can hardly be said to possess any organization for war specially; but, as a rule, owing to the exertions and experience of individual officers, an organization, which meets the requirements, is after a time established and works better than might be expected. Spread as the army of India is over a vast extent of country, the process of collecting a sufficient body of troops in peace time to test and practise in army organization is so costly, that such opportunities can be but rarely offered. Replying to this question, I would say that, up to the present time, any success that may have been achieved in war has been the result rather of individual energy, knowledge, and zeal than of any pre-arranged organization.

Colonel J. A. Tytler, C.B., V.C.,
Commanding 4th Goorkhas and
lately Commanding a Brigade.

No, I don't think that it is. The number of British officers with Native regiments is too few; and each Native infantry regiment should have 800 privates always.

Colonel H. K. Burne, C.B.,
Secretary to Government of India,
Military Department.

Yes, except that regiments of the Native army are too weak for any protracted service after allowing for depôts and casualties.

Colonel J. Macdonald, C.B.,
Secretary to Bombay Government.

The present army organization, such as it is, and which exists more with reference to the ordinary needs of garrison duty carried out by body of troops scattered over a very great extent of territory, can hardly be considered as suitable for war. Practically, however, by the exertions of those entrusted with the duty, the troops, when assembled for operations in the field, are brought together under an organization which has hitherto given satisfactory results. Troops reduced to the lowest strength and detached at great distances necessarily are not under such favorable conditions as those that are brigaded together, with all equipments and requirements for field service, though not actually in charge of each corps, yet easily obtainable.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

No; I do not consider it is.

It may answer very well for small expeditions requiring only a few battalions and batteries; but for anything like the last Afghan campaign, for example, it is quite unsuitable.

There is no fixed organization. Regiments are often taken from great distances; divisions and brigades are formed for the first time, new to the commanders; changes necessitated by the exigencies of the service are frequently made while in the field.

The evil results of this would be more felt if opposing an organized enemy. This may or may not be the case in future; but at any rate our organization ought to be such as to enable us to be prepared for such a contingency.

I consider the advantages of an organization which would enable a brigade of all arms to take the field complete in itself, each branch well acquainted with the others, as also well known to and by its commanders, to be so self-evident as to need no comment. For service in India, external or internal, where large forces are not required, brigades will, as a rule, require cavalry with them.

Colonel D. Standen, Assistant
Adjutant-General, Burma Division.

On account of the insufficiency of British officers with Native regiments, the present organization is ill-adapted, I consider, to the requirements of troops on active service. There should certainly be additional subaltern officers to each regiment in the Madras army, owing to the unavoidable plethora of field officers. Wing-commanders are far too old. The average length of service of the 2nd-in-command in Madras Native regiments is 27½ years, of wing-commanders 25½ years; and we have many wing officers, field officers of 21 and 12 years' service, performing the duties of subalterns.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Quarter-Master-
General.

The establishment of regiments, British and Native, in India is suitable as a peace establishment only. There is no provision for depôts or expansion in the time of war. The European officers with Native regiments are too few, as the efficiency of these regiments when in action depends entirely on "British leading."

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

No, I do not consider that it is. I think that a regiment should be more independent, every regiment having its own transport, and animals, drivers, &c., under the immediate control of the commanding officers.

At present men have no opportunities of practising marching with baggage, &c., as when on service. There is no proper organization for the supply of ammunition.

Captain M. J. King-Harman,
Deputy Assistant Quarter-Master-
General.

The organization is suitable in so far as regards divisions, brigades where they exist, regiments of British cavalry and infantry.

The constitution of the regiments of Native infantry is faulty in the extreme and totally unsuited to the requirements of active service, as has been clearly proved during the Umbeyla, Bhutan, Lushai, Abyssinian, and Kabul campaigns. Paucity of European officers and the want of a depôt or reserve battalion are the two great blots which have been repeatedly and prominently brought to notice by English, Russian, French, and German writers.

The Commissariat Department not being capable of expansion, and not being properly subordinate to general officers commanding, is but ill-adapted to the requirements of troops on active service.

The head of the department should be selected on account of his superior attainments, not on account of his length of service.

3. Can you make any suggestions for improving the efficiency of the—

Staff,
Troops,

Departments ...

{ Commissariat,
Transport,
Medical,
Veterinary,
Ordnance,
Engineers,

on active service ?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

Staff.—There can be no doubt, I think, that the service would gain by the amalgamation of the Adjutant-General and Quarter-Master-General's Department. As a matter of fact, during the present campaign, my chief staff officers in these departments have worked together in the same office: they consult together on all important points, and they see each others correspondence. The consequence of this arrangement is apparent in the smoothness and regularity with which the business of the force is carried on; and the absence of one of these officers does not cause delay, as the other can take up the threads of a case at once. Moreover, the duties of these departments are in many respects so closely connected, that there would be much economy in amalgamating them. If the Quarter-Master-General's Department continues to be charged with all the duties now devolving on it, every division of the army would require two staff officers, one being the deputy of the other. In the field the brigade-major could, in addition to his present duties, perform all those of the Quarter-Master-General's Department in his own brigade. These views apply with equal force to staffs in quarters.

Troops.—The most obvious defect in the efficiency of troops ordered on service is the want of defined tables of establishment and equipment. Whenever troops take the field, the authorities are worried with the consideration of these matters; and nobody knows what his men are entitled to, and every branch presses for concessions in kit and carriage as well as extra establishment. In this campaign it has not been possible to make monthly settlements with the men of Native regiments, owing to the indefinite nature of the orders in force regarding carriage and supplies. It is not known to the present day whether the men* are to be charged with the cost of carriage for their kits; and yet we have been nearly twelve months in the field! I think the scale of equipment considered suitable for service in hot, moderate, and cold climates should be fixed and published; and it should be clearly laid down what would be supplied by the State and what by the troops and followers at their own expense. Rules should be laid down for the supply of Native cavalry serving in countries where they cannot subsist themselves. Clear rules on these subjects would save the public from charges which ought to be borne by the soldier, but which are generally paid by the State in the end, owing to the delay and difficulties in obtaining a settlement of accounts at the termination of a campaign.

Commissariat.—It is quite impossible to do justice to a subject of this magnitude in a sketchy way; and it would require more time than I can devote to it, even if I had at my disposal all the information that would be needed for a paper of real value. I can, however, give my experience of the department for what it is worth.

1st.—The training of the officers in time of peace does not fit them for service *out of India*. They are, as a rule, utterly helpless without their pet purchasing agents, their gomashtras, and their Babus.

2ndly.—The officers do not study the resources of the countries bordering on India; do not know the languages of the people of those

countries; and they have no organization for the collection of supplies in an enemy's country by foraging.

3rdly.—The department is practically taught to consider itself a mere department of issue, instead of a department of supply in the real sense of the term, as it ought to be.

4thly.—In the field junior commissariat officers are required to perform duties which might be equally well done by subordinates. I have seen an assistant commissary-general weighing out groceries with his own hands.

5thly.—Commissariat officers should be required to learn how all sorts of transport animals ought to be fed and kept in working order in all climates. Their ignorance on this point is remarkable.

6thly.—Under the existing system of promotion, good, bad, and indifferent officers alike float to the top of the department, and most of the seniors are so wedded to routine, that they become obstructive and mischievous on service.

7thly.—It is but just to the department, however, to record the difficulties placed on commissariat officers by the cumbrous system of accounts which absorbs so much of their time and attention on service. Purchases must be made often by guess, and issues are frequently made in the same way; yet departmental rules require that such transactions shall be represented in accounts by exact weights and measures. Many officers are crushed by their responsibilities, and become practically useless on that account at the very time their best energies ought to be at the disposal of the troops.

8thly.—There is one other point on which I would wish to offer a suggestion: I refer to the system which now obtains under which commissariat officers in the field are subjected to interference on the part of the Commissary General. After troops have taken the field, no instructions or orders should be sent to officers of this department direct, save on questions of account or purely departmental details not affecting the interests of the troops. All such communications should be made through the general officer commanding.

Transport.—I have nothing to add on this subject to the report I recently submitted to the Quarter-Master-General on the 7th of July 1879, No. 709K.

Medical.—The double establishments of medical administrative staff should be abolished. The unification system of hospitals may be carried out in cantonments, or where large bodies of troops are serving together for any length of time; but it signally broke down in Southern Afghanistan, and owing to the failure of the transport, the force was put to the greatest straits for medical stores at times. The regimental is the only system that seems suitable for service in this country under all circumstances. Under the present system medical officers of the British service are kept constantly on the move, and their travelling expenses must be a very serious and, in my opinion, needless item of expenditure.

Veterinary.—The only suggestion I can offer regarding this department is that all officers joining it should be required to make themselves acquainted with the pathology and treatment of all animals likely to be employed in army transport. The officers of this department have little or no knowledge of the treatment of camels or bullocks; and large numbers of the former animals become inefficient and die from this cause.

Ordnance.—The only observation I have to make regarding this department is that the commissary of ordnance and his subordinates in the field should be wholly under the control of the general or other officer in command, and should not receive instructions on any subject, except accounts and returns, save through the general commanding.

Engineers.—I hardly know what is meant by this part of the question, as an *Engineer Department* does not exist in this country. But I take this opportunity of stating that, in my judgment, nothing can be worse than the relations now existing between the commanding engineer in the field and the corps of Sappers and Miners. The commanding engineer is provided with a brigade-major; and yet neither of them has any military duty to perform at present. The system seems to me to be radically wrong. I think sapper companies *working under the commanding royal engineer* should be commanded by him as their brigadier. The commanding royal engineer need not interfere with regimental details; but he ought distinctly to exercise the control conferred on brigadiers of other branches of the army. Unless the position of a commanding royal engineer is recognized in the manner here suggested, it will be a very false one, and wholly different from that of a commanding royal engineer in the home service, I am told.

Staff.—Amalgamate the Adjutant-General's and Quarter-Master-General's Departments, and have all duties conducted through one channel.

I have often experienced the inconvenience of having to let matters lie over, or to write extra letters when on inspection tours, because only one staff officer was with me, and he knew nothing about the work in the other department. On service this would be seriously aggravated in case of sickness or casualties, and there is no special advantage to the service in keeping the duties distinct.

Troops.—Efficiency cannot be secured until transport and reserves are part of the organization, and I therefore suggest that those two cardinal matters be elaborated upon the principles obtaining in the Continental armies of Europe.

The brigades of guards and rifle brigade in our British army is the nearest approach to efficiency that I know of, but they have no system of reserves. In answer to question 7, I will state what I believe to be simple and economical in that way.

Departments.—My ideas are too crude to be worth recording. Moreover, the Commission may safely look to the respective departments for valuable advice and information.

None; if officers are efficient.

Pickaxes, spades, and bill-hooks should form part of the equipment of each company; and the troops should be accustomed to the use of these tools.

Each department, with its staff and executive officers, should be attached to divisions, brigades, and regiments, under the direct orders of the general commanding the division, both on active service and in quarters.

Staff.—I would recommend a chief of the staff with each army-corps, who has served in each department and also commanded a regiment; also that all departments should have their offices under the same roof or in contiguous buildings or tents.

Troops.—A system of messing should be introduced in Native regiments. Cooking utensils to be carried on mules by the regimental transport.

Commissariat.—No suggestions.

Transport to be kept up in regiments under the transport officer, and to be available for all reliefs.

Medical.—One department only.

Veterinary works satisfactorily as it is.

Ordnance.—This department ought to be under the general officer.

Engineers.—No suggestions to make.

A school of engineering to be established at the head-quarters of every division for instruction of officers and non-commissioned officers of the line.

The duties of quarter-masters have largely increased of late years. These officers should be specially selected for activity and endurance, and above all they should be good horsemen: few are so.

Certain officers and non-commissioned officers in every regiment should be trained in the transport service and be available to assist in that service when their regiments take the field.

At Fort William and Bombay strong landing stages should be kept ready to accompany troops embarking for service.

Staff.—Staff officers to be attached for a short time to other branches of the service than their own, so as to obtain a knowledge of all details.

Troops.—I would recommend that belts of brown leather be worn by all ranks in place of the white and buff leather now in use.

Departments.—No suggestions.

Selected officers who have passed staff college should be employed as much as possible in the higher posts.

For the improvement of troops or departments I have no suggestions to offer.

Staff.—I think efficiency would be promoted by the abolition of distinct appointments to the departments of the Adjutant and Quarter-Master Generals, making all officers available for either duty, and by requiring from the senior staff officer of a division or corps a general superintendence of their duties.

Troops should be relieved of all needless encumbrances—useless clothing and other articles only required in quarters. The number of men regimentally employed should be very strictly limited: much additional duty falls on others from this cause, affecting efficiency considerably. The question of carrying "colors" on service is becoming serious. If 30 regiments are in the field, 60 officers and 120 non-commissioned officers are employed on this duty, companies being frequently without officers to command them. The pioneers of regiments are simply deductions from the effective strength: they do no duty that cannot be done by other soldiers. Every deduction from the number of

Lieutenant-General W. T. Hughes,
C.B., Commanding Sirkhind Division.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

Major-General J. Ross, C.B.,
Commanding Presidency District.

Major-General A. H. Macintyre,
C.B., Commanding Hyderabad Sub-
sidiary Force.

Major-General R. O. Bright, C.B.,
Commanding Meerut Division.

Major-General H. R. Browne,
Commanding Sagar District.

officers and soldiers who are *bona fide* in the ranks of the companies affects efficiency in every possible sense.

Commissariat.—A reserve of officers who have some previous experience of the duties of the department, whose services can be called upon in time of war, seems requisite.

Transport.—There is at present no real organization. Corps and departments receive their transport on their own demand and attend to it themselves. Much loss of power of movement and waste of carriage is almost a necessary result.

Major-General J. W. Schneider,
C.B., Commanding Northern Division,
Ahmedabad.

To improve the efficiency of Native troops, they should be armed with the Martini-Henry rifle, so that they may come into action simultaneously with British troops. The arming of the Native infantry contingent that proceeded to Malta with the superior weapon shows the necessity for the change.

As regards the Medical Department, the constant changes of medical officers in corps, British and Native, is to be deprecated.

Brigadier-General G. Barrows,
Quarter-Master-General, Bombay
Army.

I would suggest the abolition of the staff corps and the return to the regimental system in the Native army, young officers being sent direct to the service they are to remain with.

I would suggest an increase in the number of European officers with Native infantry regiments.

I have a great respect for the Native officer, and have occasionally met with exceptionally good men; but, as a rule, they are not fit for command, and disaster might assuredly be anticipated if, in a case of difficulty, troops were left without the supervision of a European officer.

That this must happen under the present organization in the event of prolonged and severe fighting is certain; and to make a regiment thoroughly efficient, or efficient at all, it is necessary to increase the number of European officers.

The following is the establishment which I consider would suffice :—

1 lieutenant-colonel.

1 major.

4 captains.

10 lieutenants, including adjutant and quarter-master.

The lieutenant-colonel, major, and adjutant would be mounted on parade, the quarter-master on other duties.

Each captain would command a double company of 150 men, with two subalterns under him.

In view of regulating promotion, I would have each regiment formed of two battalions, the rank of lieutenant-colonel being attained on a general list, as was formerly the case.

Such a change as is here proposed might be somewhat expensive at first, but, apart from the great gain in efficiency, I believe it would be economical in the long run, as compared with the present extravagant system of the Staff Corps.

Officers would be selected, as at present, for the staff, and, whilst so employed, would be seconded in their regiments.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

Officers of staff experience should be selected for staff appointments on active service in preference to those of little or no experience; the latter must fill vacancies in the well-organized offices of the former in cantonments.

Brigadier-General C. T. Aitchison, C.B., Commanding Bombay District.

This question embraces many points of too extended a nature to be replied to without much thought and study; but as regards Native troops, I venture to attach a proposal made by me some years ago when I was Adjutant-General of this army. Native troops should be armed with the Martini-Henry rifle to enable them to take their place in line with British troops with confidence.

The dual administration of the medical departments is not required; it is useless, cumbersome, and expensive.

NOTES ON THE ORGANIZATION OF THE NATIVE ARMY.

The object of the subjoined scheme is to meet the objections to the present organization, which may be said to be almost universally condemned.

The objections to the present system and the suggestions towards its improvement may be classed as follows :—

I.—The paucity of British officers to lead in the field, and the hopelessness of expecting the proposed service battalion gives 16 British officers for the field. Native officer to take the place of the European officer at the head of his company.

II.—The constant change of officers from one regiment to another, tending to weaken *esprit de corps* on the part of the officers and confidence on the part of the men.

The only changes will now be from one battalion to another of the same regiment.

III.—The absence of a proper *clannish*—as distinct from *caste*—sympathy among the men, which can only be obtained, some think, by regiments being localized, by their recruitment being confined to certain districts.

The reserve battalion will be localized, at which all recruits will be collected from the district allotted to the regiment, with the exception of 150 foreigners per battalion, as allowed at present.

IV.—To meet the views of those, on the other hand, who would prefer to see an army more *mobile* and who object to an army composed of regiments entirely localized.

The service and garrison battalion will be mobile, especially the former.

One endro for the three battalions accomplishes this. Purchase was an object to be attained when this paper was first drawn up, but the abolition of all purchase disposes of this point, for the present at least.

VI.—The keeping of the present overgrown and expensive staff corps to its legitimate bounds, *viz.*, to provide a corps for *staff situations* only, both civil and military, exclusive of five-year-tenure appointments, which tend to improve regimental officers who, when so employed, should be *seconded*.

The writer admits that the plan he now proposes to detail is not entirely his own, having taken hints and ideas from papers that have already appeared both on the Home and Indian Army Reorganization Schemes.

Proposed Scheme.—Infantry Branch.

At present the Bombay Native army consists of 30 infantry regiments of the line, all under the orders of the Commander-in-Chief.

There are no local or irregular regiments properly so-called; the few there were are now organized as military police.

Out of these 30 regiments, therefore, the reorganized infantry army must be formed.

I.—It is proposed to form 10 regiments of three battalions each.

The battalions to be designated as follows :—

1st.—Service battalion..

2nd.—Garrison battalion.

3rd.—Reserve battalion.*

II.—The officers of the three battalions to be formed in one cadre to consist of 27 officers.

III.—The cadre to stand as follows :—

3 lieutenant-colonels.

3 majors.

7 captains.

14 subalterns.

—

27

—

IV.—The battalions to be composed as follows :—

DETAIL.				1st or service battalion.	2nd or garrison battalion.	3rd or reserve battalion.	Total of regi- ment.	REMARKS.
<i>European Officers—</i>								
Lieutenant-colonels (commandants)	...	...	...	1	1	1	3	
Majors	...	...	...	2	1	...	3	
Captains	...	...	...	4	2	1	7	
Lieutenants	...	...	...	4	...	...	4	
Sub-lieutenants	...	...	...	2	2	...	4	
Adjutant (subaltern)	...	...	...	1	1	1	3	
Quarter-master and paymaster (subaltern)	...	...	...	1	1	1	3	
Total	...	...	...	15	8	4	27	
<i>Native Officers—</i>								
Subadars	...	...	...	8	6	5	19	
Jemadars	...	...	...	8	6	5	19	
Total	...	...	...	16	12	10	38	
<i>Non-Commissioned Rank and File—</i>								
Havildars	...	...	...	32	24	20	76	
Naiks	...	...	...	40	30	25	95	
Drummers	...	...	...	16	12	10	38	
Privates	...	...	...	800	600	500	1,900	
Total	...	...	...	888	666	555	2,109	
Number of Companies	...	...	...	8	6	5	19	

* Perhaps more happily styled "nursery" battalions in an able paper in the *Saturday Review* on army reorganization at home.

Financial Results.

The financial results of the proposed organization will be as follows :—

Present Regimental Establishment.				Proposed Establishment of 1 Regiment of 3 Battalions.			
European Officers.		Rs.	Rs.	European Officers.		Rs.	Rs.
1 Lieutenant-Colonel—Commandant ...	...	1,427		3 Lieutenant-Colonels, Commandants, at Rs. 1,432 (a) ...	...	4,296	
1 Ditto—2nd-in-command ...	...	1,087		2 Majors, 2nd-in-command, at Rs. 550 (b) ...	...	1,375	
1 Major—Wing Officer ...	...	870		1 Major, Service Battalion ...	...	750	
1 Lieutenant—Adjutant ...	...	425		1 Captain, 2nd-in-command, Reserve Battalion (c) ...	...	565	
1 Ditto—Quartermaster ...	...	373		6 Captains, at Rs. 510 (d) ...	...	3,210	
1 Ditto—1st Wing Subaltern ...	...	323		10 Lieutenants, viz. ...	...	
1 Ditto—2nd Ditto ...	...	323		4 at Rs. 350 (e) ...	...	1,400	
			4,811	8 (Adjts.) at Rs. 466 (f) ...	...	3,728	
				3 (Qr.-Mtrs.) at Rs. 406 (g) ...	...	1,218	
				4 Sub-Lieuts. at Rs. 302 (h) ...	...	1,208	
							15,966
Native Commissioned and Non-Commissioned Rank and File.				Native Commissioned and Non-Commissioned Rank and File.			
8 Subedars ...	...	523		10 Subedars ...	...	1,400	
8 Jemadars ...	...	260		10 Jemadars ...	...	615	
40 Havildars, at Rs. 14 ...	...	560		70 Havildars, at Rs. 14 ...	...	1,201	
40 Naiks, at Rs. 12 ...	...	480		65 Naiks, at Rs. 12 ...	...	1,140	
16 Drummers, at Rs. 7 ...	...	112		38 Drummers, at Rs. 7 ...	...	266	
600 Privates, at Rs. 7 ...	...	4,200		1,000 Privates, at Rs. 7 ...	...	13,300	
Non-effective staff pay of Subedar-Major, Native Adjutant, &c. ...	...	132		Non-effective staff pay of Subedar-Major, Native Adjutant, &c. ...	...	324	
			6,372				18,405
Mess allowance Band ditto ...	...	100		Mess allowance for 2 battalions ...	...	200	
		100		Band allowance for 2 do. ...	...	200	
			200				400
Total for each regiment per mensem ...	...	11,416		Total for each regiment per mensem ...	...	34,791	
		89				10	
Total for 30 regiments per mensem ...	...	3,42,480		Total for 10 regiments per mensem ...	...	3,47,910	

		Rs.	Rs.			Rs.	Rs.
(a) Pay of rank ...	...	1,032		(e) Pay of rank ...	...	250	
Command allowances ...	...	400		Staff pay ...	...	100	
			1,432				350
(b) Pay of rank ...	...	760		(f) Pay of rank ...	...	250	
Staff pay ...	...	150		Staff pay ...	...	200	
			910				450
(c) Pay of rank ...	...	415		(g) Pay of rank ...	...	256	
Staff pay ...	...	150		Staff pay ...	...	160	
			565				406
(d) Pay of rank ...	...	415		(h) Pay of rank ...	...	202	
Staff pay ...	...	125		Staff pay ...	...	100	
			540				302

Of the present Native infantry army of 30 regiments, it is calculated that one-third only, i.e., 10 battalions, could be spared for field operations beyond the limits of the presidency.

The 10 service battalions should always be kept complete in officers for this emergency, in peace time taking their share in reliefs, but to be kept as much as possible at head-quarters of divisions and districts, so as to be practised in brigade and field duties.

The "garrison battalion," as the term implies, should be held more particularly for periodical reliefs.

The "reserve battalion," which should be permanently located in one of the 10 districts or centres hereinafter named, should be the nursery for the entire regiment, the lines permanent, able to accommodate families of two battalions; all recruits to be enlisted there and passed into the ranks.

In case of the service battalion taking the field, the families of the battalion to be moved to the reserve battalion. The districts proposed in which the reserve battalions shall be permanently located are as follows :—

- | | |
|------------|------------------------------|
| 1 Sind, | 2 Southern Mahratta Country, |
| 1 Guzerat, | 2 Concan, |
| 2 Deccan, | 1 Khandeish, |
| | 1 Mhow, |

subject to modification as regards capability for enlistment.

As now, 150 "foreigners" to be allowed for each battalion, exclusive of men so-called who may have been born and brought up in the regiment.

Numerical Comparison.

The subjoined statement shows the number of European officers, including those absent on furlough, at present employed, or available for employment with the Native infantry, and the number required under the proposed organization :—

RANK.	Present number.	Proposed number.	Surplus.	Deficient.	REMARKS.
Colonels and Lieutenant-Colonels ...	80	30	50	.....
Majors ...	56	30	26	.....
Captains ...	99	70	29	.....
Subalterns ...	51	140	.....	89	
Total ...	286	270	105	89	
			Or an aggregate surplus of 16 officers.		

Thus it will be seen that, numerically, the present supply of available officers for regimental duty is but sufficient for the wants of the proposed organization.

The only difficulty will be found in the fact that field officers are in superabundance, while there is a great paucity of subalterns. But this difficulty will in course of time settle itself the more or less quickly as Government assists, by bonus or otherwise, in getting rid of the senior field officers.

There is thus *apparently* a monthly increase of Rs. 5,430 for the whole army; but it must be borne in mind that the actual expense of the Native army is far in excess of that set out under "present regimental establishment;" for, as a rule, adjutants, quarter-masters, and 1st wing subalterns hold the rank of captain. The *Army List*, dated 1st January 1873, shows at least 70 captains holding such appointments. The difference of pay, *viz.*, Rs. 374—225=149 × 70=Rs. 10,430, must therefore be added to the amount shown as the total cost of "present establishment." The cost of the proposed establishment will then be less by Rs. 5,000 per mensem than the present actual expenditure.

Brigadier-General F. G. Kemper,
Commanding Ceded Districts.

The staff are, I believe, thoroughly efficient and can produce many first-rate men.

The troops.—European battalions are wanting in strength, caused by the present system of short service.

So far as the Madras troops (Natives), I would improve their efficiency by at once abolishing their present stiff, useless, and unmeaning uniform, which cramps and prevents the free use of the men's limbs, more especially when called upon to carry out skirmishing and outpost duties.

I would give the men the Zouave dress as being much more suitable and more becoming to a Native. Each man should have a good pair of brown leather gaiters to protect the legs against thorns.

For dress occasions, such as full dress parade, the men might have a pair of white ones.

Each man should be allowed by Government a water bottle and water-proof sheeting on service.

The dress of the Madras cavalry is too stiff and too closely fitted; it is very apparent when they are dismounted.

I do not venture to express an opinion on the departments.

No; I think as a rule the staff are efficient.

As the Native troops are the only ones with which I have any experience, I would recommend that all regiments should be class regiments. I would also suggest that the pay of the non-commissioned ranks (havildars and naiks) should be increased; that no man should be allowed to claim his discharge before he has served six years; and that at the end of that time, if found to be a slovenly, careless soldier, and unlikely ever to make a good non-commissioned officer, he should be summarily dismissed, especially if he is of bad character. That no man should be entitled to pension before twenty years' service. If found unfit for the service before that, that he should be discharged with a handsome gratuity. That the staff pay of a pay havildar should be increased from Rs. 5 per mensem to Rs. 8, and that arrangements should be made through the Government for supplying all our Native troops with good English boots at a moderate price.

I can make no suggestions with regard to the 1st, 3rd, 4th, 5th, and 6th. To the 2nd I have replied under the head "transport."

To reply fully to this group of queries would involve long exhaustive reports on each; for this I have not at present sufficient leisure. In some of the replies given to other questions, remarks may be found connected with the staff and the departments named. I may here state that the staff as a body, so far as my experience goes, have been found efficient both in quarters and in the field. I think that, as a rule not to be deviated from, no officers should be appointed to either the Quarter-Master-General's Department or to the Commissariat Department in the field who have not already served in those departments. If, as suggested elsewhere, the tenure of an appointment in the Commissariat Department is restricted to five years, there will be in course of time a number of officers passed through the departments, who would be useful for employment either to fill acting vacancies in the regular establishment or as extras for employment in the field.

The Commissariat requires to be relieved of much of the duty now thrown upon it.

Transport.—The little I have to say on this subject will be found in reply to the question put in the separate paper (under this head).

Medical.—India is now paying for a double staff of medical administrative officers, and, as far as I am aware, there is no necessity for such extravagance. Whether the troops are on active service or not, either the administrative staff of the Indian medical service could, with some re-adjustment of their civil duties, look after the interest of the British soldier, or the administrative staff of the British medical service could perform the same duty for the Native troops. Certainly, either course might be adopted on actual service or in cantonments. I do not believe that under the existing arrangement there is sufficient work in this presidency for a surgeon-general and three deputy surgeons-general of the British medical service either in the field or in quarters. If army-

Colonel J. A. Tytler, C.B., V.C.,
Commanding 4th Goorkhas, and
lately Commanding a Brigade.

Colonel J. Macdonald, C.B.,
Secretary to the Government of
Bombay.

corps are formed in lieu of presidential armies, two deputy surgeons-general ought to be able in time of peace to perform the military administrative duties to the whole of the troops, European and Native, belonging to any one corps, and on service one administrative officer should be enough for both British and Native corps forming a division.

Veterinary Staff.—No remark.

Ordnance.—No remark.

Engineers.—No remark.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

Should be on the same organization as British army-corps.

The remarks in reply to query 2 apply equally to this, and I think a suitable dress should be given to all troops on active service.

The Commissariat Department is under-officered even in peace time. The officer's whole time is taken up in office work. The actual duty of obtaining supplies (which is the chief duty of a commissariat officer) is entirely in the hands of Natives. The consequence is that directly a force has to supply itself in a foreign country, the commissariat officer does not know how to do it; and, as in the Kandahar and Girish column, the cavalry and political officers have to get the supplies, or, in other words, do the work of the commissariat official, who is doing Babu's work in a tent. The officers require special training and selection. Very few of them are judges of the articles they supply (witness the rubbish often issued under the name of "line gear"). There should be a reserve of trained officers available for employment in time of war.

The department has not sufficient nucleus for expansion to the requirements of active service. The officers are naturally wanting in experience, except those who have been in the department for some time. A system should be established which would give a larger number of officers some knowledge of their duties, and which can only be obtained by increasing the staff in a small degree and in attaching such officers as are candidates for appointment to the department to learn their duty. Appointments to be made for five years.

Transport.—An organization in time of peace which will allow of its expansion in time of war. I think it must be admitted that the late campaign has shown the necessity for this, as also for officers being more experienced in these duties. A knowledge of the language is, I think, absolutely necessary, not only by the officers, but also by the subordinates. The success of the highland transport trains in Abyssinia is a proof of the value of organization.

The officers of the Royal and Indian medical departments should, whilst serving in India, be amalgamated. The system of having two departments working side by side is a very expensive arrangement with no compensating advantage.

I think we should revert to a modified regimental system, with an establishment of regimental medical officers, but with base hospitals.

I think present arrangements are sufficient.

Ammunition columns should be established as at home, and the duties of the Ordnance Department should be confined to depôts of supply. The present system has not worked satisfactorily.

The department is under-officered and has no reserve of qualified officers who can be made available for war. The Ordnance Commission Report should be carried out as far as possible. There should be only one department for all India.

The English system is, I think, the best.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant
Quarter-Master-General.

A chief of the staff with any column on active service would ensure greater efficiency and unity of action in the several departments of the staff. The Commissariat Department is generally undermanned and overworked when active service occurs. It should be capable of immediate expansion by officers who have had some experience in that department. This can be attained only by simplifying the system of departmental accounts and limiting the tenure of office by the executive officers to five years, subject to reappointment; and all appointments to the department to be by selection as to the general staff of the army of which the Commissariat Department should form part. A transport department has hitherto been formed only when war has been determined on. Such must still be the case to avoid the expense of keeping up the department with very little advantage during long years of peace. Carriage should always be hired, as thus an excessive outlay in purchasing is avoided, and the animals are carefully looked after by the owners, but, if necessary, should be fed by Government when food is not otherwise procurable by the owners. The desertion of the drivers could be easily avoided by ordinary precautions on the part of the military and by the legislature enacting that men so hired during the time of war would be liable to punishment by the civil power if they returned to their homes without the sanction of the military commander in the field. The transport should be under the orders of Commissariat Department in so far only that a commissariat officer selected for his administrative capacity and practical experience should be made the head of the department, but under the immediate orders of the general com-

manding alone, and should be relieved from all commissariat duties. The Natives of India have been long accustomed to the Commissariat Department making arrangements in the matter of supply and transport, and have therefore greater confidence in a commissariat officer than in an officer quite unacquainted with that description of employment, and probably ignorant of their language. So under the former would work more efficiently and willingly.

Major H. Collett, Assistant
Quarter-Master-General.

I am decidedly of opinion that the division of the staff into departments (Adjutant-General's and Quarter-Master-General's) is detrimental to the true interests of the public service, and ought to be abolished.

It causes needless correspondence, and an unnecessary multiplication of forms and returns. The system has not, that I can see, a single advantage. It is bad enough in peace, but in war it is ten times more objectionable. A general officer can have but one confidential staff officer, and it is unfair to require him to transact his business through two men instead of one.

I can see no reason why all staff officers should not be placed on one list and be given some general title. The chief of the staff or the staff or army head-quarters would then distribute them as the requirements of the service might demand. At each divisional headquarters there would be a chief staff officer and as many assistants as might be necessary. This officer should be the channel of communication with the general for all staff, commanding, and departmental officers, whether commissariat, medical, ordnance, or engineer. All business should be transacted through him, in order that he might know all that was going on, and be able to see that the public service was conducted to the best advantage. A judicious and competent chief staff officer ought to prevent all friction between independent departments, and all undue clogging of action by routine or red tape obstructiveness. He ought to act as oil to the wheels of a machine. To do this he must of course be a man of ability and of tact; and chief staff officers under this system will have to be very carefully selected.

A stupid man, or a man wanting in judgment, temper, or tact, would be most mischievous in such a position. His powers for evil are in fact commensurate with his powers for good.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

Staff.—I would give them more opportunities of making themselves acquainted with other branches of the service than those to which they belong. Officers who pass through the staff college have these opportunities; but officers who have not the opportunity or the desire to go through the college, seldom have a chance of making themselves acquainted with the details of those arms with which they have not served.

I think that there is too much tendency to keep departments separate instead of blending them together.

The combination of the duties of the Adjutant-General's and Quarter-Master-General's departments as now carried out at home appears to me, from what I have heard of its working, to be a good one.

Staff officers should have more opportunities of superintending the movements of troops, and of actually carrying out all details that would be necessary in time of war. This might be done on a comparatively small scale, so as to save expense.

At present staff officers are too much tied to their desks, and have not sufficient field work. This is partly caused by the inferiority of their clerks, who often cannot be trusted to carry on the ordinary routine of an office. Clerks are often procured with the greatest difficulty, and as a personal favor, from commanding officers; and it frequently happens that just as a good man has learned his work, he is offered promotion in his regiment and returns to it.

A special corps of clerks should be formed, in which men should receive fair pay to begin with, and be promoted according to service and ability. At present there is little or no inducement for a clever hard-working man to remain in an office.

Staff officers would also have more time for the performance of really military duties, if many elaborate returns now called for could be dispensed with.

It is well known that some returns give information which has already been furnished in a different form in other returns. Again, many returns that have now to be submitted weekly or fortnightly might apparently be furnished monthly instead.

On field service, officers of the Quarter-Master-General's Department are not allowed enough horses. A heavy man certainly requires four under ordinary circumstances.

Troops.—Troops generally should have greater opportunities of manœuvring over rough ground, and small bodies should manœuvre against each other. At camps of exercise little is learned except by officers holding high commands and by the staff; even regimental officers know little of what is going on, while the private soldier learns absolutely nothing.

If recruits were more carefully taught, and induced to take an intelligent interest in their work, instead of learning drill in a purely mechanical way, a good foundation would be laid. Squad might then manoeuvre against squad, and company against company, by which means section leaders would learn to exercise more supervision than is now often done.

Captains should have more control over their companies, and should be encouraged to take them out and exercise them. At present it is almost an unheard of thing for a captain to have his company out except on a battalion parade.

The position of non-commissioned officers should be improved. I am convinced that a better class of non-commissioned officers would immensely add to the efficiency of a regiment on service.

In hill stations, and in camp in the cold weather, soldiers should cook their own food. At present they are dependent upon Native cooks, whose cookery is usually performed in a very dirty way, while the number of followers of a regiment is considerably increased.

Men should be much more practised in the use of the spade and in throwing up shelter. Baker Pasha, in his book on the War in Bulgaria, points out what an enormous advantage the Turks gained by their proficiency in the art of entrenching themselves. The system certainly had not the effect of reducing the *morale* of the troops,—an objection which has been frequently urged against it. On the contrary, it would appear that good troops merely gain increased confidence by the knowledge that they are not needlessly exposed to fire.

Commissariat.—Not being at all intimately acquainted with the details of the Commissariat Department, I can only suggest that every endeavour should be made to simplify the present complicated system of accounts; to lessen clerical labour; and thus leave the officers of the department freer to exercise personal supervision over the procuring and issuing of supplies.

With an army in the field there should be one head to control the supply of all the divisions. In the late Afghan campaign it appeared as if the heads of the department in different divisions were rather working against each other than in concert, not from the fault of individual officers, but owing to the shortcomings of the system.

More officers of the department are undoubtedly wanted with troops in the field. During the late campaign officers were much overworked, and the young officers who were sent to assist late in the day could be of but little use.

Transport.—No department can be efficient which is only created when an emergency occurs. The nucleus of a proper transport department must be formed in time of peace and it can be expanded in time of war.

The subject is one which must be gone into at length if proper justice is to be done to it, and I would here merely indicate the manner in which I think a proper system might be established. I think that every regiment should have a certain proportion of transport animals attached to it in time of peace.

To look after it, a staff of regimental officers, non-commissioned officers, and men should be told off. The drivers should be under proper discipline, trained to *silence* and strict obedience, and drilled to a certain extent.

The staff should be thoroughly instructed in fitting of pack-saddles, loading of animals, and grooming; and they should be responsible for the animals being properly fed.

The proportion might be sufficient, say for the mobilization of one company, troop, or division of artillery, and might be attached to each company, troop, &c., in turn for periods of one month, so that all might have opportunities of learning the work.

One officer of each regiment might be appointed transport officer, say for one year, and would be relieved by another, while all were gradually acquiring some knowledge of the details.

The company to which the carriage was attached would practise loading and marching out at least once a week: this might be done even in hot weather under ordinary circumstances, the move, of course, being a very short one. The carriage thus made over to regiments would form the moveable column carriage of the station or brigade, the whole being transferred temporarily, when occasion required, to that part of the force which it might be desired to move, and returned when no longer required.

After a short time each regiment would be quite capable of managing its full complement of carriage, and officers of sufficient seniority and experience might be detailed to control the transport of brigades and divisions.

All regimental transport should be inspected from time to time by a selected *staff officer*, probably the officer of the Quarter-Master-General's department attached to the command. The inspection should not be confined to mere examination of the animals, harness, &c., but they should be seen at work.

In order to secure a certain amount of uniformity of system, it would be well if an active and experienced officer could be appointed as

head of the whole transport department. He should constantly travel about and report on the state of efficiency in which he found the transport of each regiment for the information of the Commander-in-Chief.

He would draw up rules for the guidance of all. These rules should of course be as simple as possible, but they should be strictly adhered to. I have seen very serious inconvenience and delay caused by utter want of discipline and the neglect of such simple and obvious regulations as observing the rule of the road, making animals preserve proper distance, removing broken-down animals from the road, selecting open places instead of defiles to adjust loads, &c., &c.

I am of opinion that if some such system as I have roughly sketched could be adopted, it would be comparatively easy to increase the transport in time of war both by withdrawing what is already in existence from where it was not required, and by entertaining additional animals and drivers.

The transport animals need not be unemployed. They should be utilized for regimental, station, or commissariat work when not actually employed on their own special duties.

It may be objected that by the plan I propose a new department would be created and extra expense caused; but I am convinced that no department will ever work well unless those who are entrusted with its management feel that they, and they alone, are responsible. Without this sense of responsibility, officers will not take a proper interest in their duties.

The importance of the subject is one that admits of no doubt. The whole efficiency of an army depends upon its transport; and the late campaign clearly showed the evils and enormous expense entailed by having to improvise a transport train at the eleventh hour.

Medical.—Without going into details on professional matters, of which I must necessarily be ignorant, I can only suggest that the regimental system should be reverted to for medical officers, that being the system which is, as far as my experience goes, nearly unanimously approved by the combatant part of the army.

That, if possible, pack animals should, as far as practicable, be substituted for doolies and bearers; and that the latter should be picked able-bodied men. The kahars in the Peshawar column were a miserable set of creatures, a very large proportion of them being old and decrepit. Kahars should be under some discipline. At present no one seems to have any control over them; they are lazy, noisy, unruly, and always in the way. Their apathy not only leads them into danger, but sometimes seriously interferes with the success of military operations, by delaying and hampering the troops.

It would be well if kahars were exercised along with the rest of the transport and taught to obey orders and observe the necessary rules for facilitating the march of a column.

Veterinary, Ordnance, Engineers.—No; I have not the knowledge nor experience of these departments to qualify me to give any suggestions.

Captain M. J. King-Harman,
Deputy Assistant Quarter-Master-
General.

Staff officers can never prove their efficiency on service if they are put to work under general officers who are not efficient themselves. Therefore, brigadiers should be selected on account of their efficiency, and not simply because they are senior in rank to the other colonels.

The efficiency of both staff and troops would be much improved if they had been accustomed to work together during peace time; and this might be easily done, provided that certain stations or regiments are told off *definitely* to form portions of *fixed corps d'armée*, divisions and brigades, by stations, brigades, or divisions manœuvring against each across country during part of the cold weather, as, for instance, the troops from Meerut and Umballa to start from their respective stations on a fixed date: manœuvre to last, say, ten days, the objective of each force being the cantonment of the other. Such work could not fail to improve the efficiency of all concerned for active service.

The sappers and miners of all three presidencies are so efficient in every way, that the only manner in which I can suggest an improvement is by doubling their numbers: the Bengal sappers to be formed into twenty companies, half of which would have their head-quarters at Rawal Pindi or Sialkot.

It cannot be denied that the efficiency of troops on service must be, and always is, much increased by a knowledge that they are well supported.

In the mitrailleuse or machine gun we have not only a real, but a moral, support. This has been universally acknowledged, even by Englishmen; but we alone of all European nations object to its use in our armies. (Our navy adopted it years ago.) Why is this?

Having, as we always shall have, to contend against forces that are numerically superior to our own, while at the same time they are usually well armed and (in European armies certainly) better drilled,

better disciplined, and better prepared in every way for war, it behoves us to do all in our power to improve the quality of the support to our men, limited as they are in numbers, and, so far as the Native regiments are concerned, deficient in the material as well as moral support that is afforded by a sufficient number of British officers.

Hitherto, we in India have only been opposed to Asiatics; but henceforth we shall be opposed, in one direction for certain, by a combined force of Europeans and Asiatics, armed, equipped, and trained as well as ourselves, but far superior in numbers, and supported by large numbers of mitrailleuses, all of which is well known to every man in our Native army.

We should therefore, in view to the support, and consequently increased efficiency, of our Native troops, give the mitrailleuse a definite position in the organization of our army, and distribute them *at once* throughout India, as, *ce n'est que le premier pas qui coûte*, and it will be cheaper to expend a few thousand pounds on these weapons now than to send additional regiments from England to assist us to repel an invader hereafter.

I would therefore suggest the immediate provision of three mitrailleuses to each brigade of three regiments of infantry; that they should always during peace time remain in charge of the British regiment of the brigade: the officers and men of that regiment to be instructed in its use and to practise with it regularly, and the ammunition for its use being kept in the regimental magazine. In time of war (and at camps of exercise if considered necessary) one of these weapons, with its full complement of British soldiers, would be attached to each regiment of the brigade, or so distributed as the brigadier might see fit. Of course, during peace time, these weapons would *only* be in charge of *British infantry*.

In addition to this, every fort should have at least two mitrailleuses forming part of its armament; and every large cantonment should have one to form part of the armament of its defence post in case of internal disturbances. Whether or not our large railway stations, such as Lahore, Allahabad, Agra, Allypore, &c., which, being junctions, are also important strategic points, should be provided with one apiece, to be under the care of the volunteers, is a question worthy of some consideration.

4. Cannot the guard duties of troops in garrison be reduced? Can you give detailed suggestions as to the manner in which this may be done?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

I am not aware that any sensible reduction can be effected. Certainly there is nothing in the present system that calls for special legislation. Here and there petty reductions might be possible, but these matters can best be dealt with by officers in command on the spot. Whatever these reductions may be, they cannot affect the strength of the army in any appreciable degree.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Oudh Division.

I do not think guards can be further reduced.

In British regiments they are a mere nothing. Many men are employed in "regimental duties," but as they have all their nights in bed, and are mostly available for parades of all kinds, they are as good as present.

The guards of Native regiments are also at a minimum in the Oudh Division, except at Lucknow, where the Fort Muchec Bhawan engages a company.

Orderly duties are also at the lowest ebb.

If the cantonment police be efficient, the guard duties of Native troops might be reduced to the following:—

Native Infantry Station Guards.

	Native Officers.	Naiks.	Sepoys.
General officer commanding division or district	1	1	0
Officer commanding station or garrison, when not under the rank of a field officer	0	1	3

Native Infantry Regimental Guards.

	Havildars.	Naiks.	Buglers.	Sepoys.
Quarter guard	1	1	1	0
Magazine guard	0	1	0	3
Mess guard	0	1	0	3

Native Infantry Orderlies.

Commanding officer	0	0	0	1
Adjutant and order book	0	0	0	2
Hospital	0	1	0	0

Lieutenant-General W. T. Huches, C.S.I., Commanding Sirhind Division.

Native Cavalry Regimental Guards.

	Duffa-	Jema-	Sowar.	Horses.
	dar.	dar.		
Standard guard	1	1	6	0
Magazine guard	1	0	3	0
Mess guard	1	0	3	0

Native Cavalry Orderlies.

Commanding officer	0	0	1	1
Adjutant and order book	0	0	2	1
Hospital	0	0	1	0

Memorandum.—In special localities, such as disturbed frontier stations, rear and bazar guards may be necessary, and should be provided at the discretion of the officer commanding the station.

Not in Mhow Division and in States of Native Princes, where the police are not efficient enough to guard the jails, in which many desperate characters are often confined, nor to escort treasure through the Native States.

Guard duties for Native troops in garrison could be reduced by dispensing with mess and commanding officers' guards.

Guards should not be furnished for purely civil purposes, such as in Calcutta, for the Mint, Bengal Bank and Alipore Jail, and during absence of Viceroy and Lieutenant-Governor over their residences.

Some sentries might be dispensed with in the artillery were the gun-sheds provided with locked doors. I do not see how other guard duties at this station could be reduced.

No unnecessary guards are furnished in my division. The guards found by Native regiments to commanding officers might be dispensed with.

I have given a good deal of attention to this point. On the whole, duties of guard are fairly restricted to what is necessary. Excepting as regards the protection of regimental treasure, the number of soldiers employed on this duty, which does not obtain in any other country, is hardly understood and is very considerable indeed. Every regiment and detachment has its ohest, with its double sentry, requiring six soldiers on guard, and these six must be multiplied by the number of regiments and detachments in the whole of India. I think also that the number of soldiers employed as orderlies to staff officers and others is often much in excess of any real requirements.

Garrison guards have been reduced to the lowest possible figure. The most important reduction has been a large diminution in the strength of jail guards. I consider that permanent escorts and detachments to political officers in foreign territory might be withdrawn, the States with which they are associated being required to furnish trained local troops for the protection of records and treasure.

This will be answered by the Adjutant-General.

Guard duties may be reduced—

- (i) by reducing the number of garrisons and bringing troops together to a greater extent than is done at present;
- (ii) by confining military guards to strictly military requirements, such as over arms, ammunition, military treasure, and prisoners, and not requiring troops to furnish guards over civil jails, mint and stamp offices, banks and commissariat stores, &c.

A police guard might be substituted for the bazar military guard over prisoners.

Guard duties have in this presidency been reduced to the lowest possible extent, with one or two exceptions. I have lately represented one instance that exists in my command in which a Native guard mounts in the High Court. The only orders for the sentry are the following:—

"None but officers of the court, barristers, and vakils are allowed up the Judges' staircase."

"The sentry is not to interfere with the umbrellas of suitors."

It is apparent that the sentry is not able to carry out those orders.

There is a tendency among political officers in our own territory to demand personal escorts of regular troops. In Foreign States such escorts may be necessary, although the local troops of the State might doubtless be appropriately so employed in many cases.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

Major-General J. Ross, C.B.,
Commanding Presidency District.

Major-General A. H. Macintyre,
C.B., Commanding Hyderabad Sub-
sidiary Force.

Major-General R. O. Bright,
Commanding Meerut Division.

Major-General H. R. Browne,
Commanding Saugor District.

Major-General J. W. Schneider,
Commanding Northern Division,
Ahmedabad.

Brigadier-General G. Burrows,
Quarter-Master-General, Bombay
Army.

Brigadier-General F. W. Jebb,
Adjutant-General, Madras Army.

Brigadier-General H. H. A.
Wood, C.B., Commanding Deesa
Field Brigade.

Brigadier-General C. T. Aitchi-
son, C.B., Commanding Bombay
District.

Brigadier-General F. G. Kempster, Commanding Ceded District.

Brigadier-General J. I. Murray, C.B., Commanding Mooltan Brigade.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

The guard duties in this army (Madras) are confined strictly to regimental, with the exception of a guard over the arsenal and magazine, and I believe this system is carried out throughout this presidency.

In Native regiments, the hospital, mess, and commanding officers' guards might be abolished; but I can suggest no reductions as regards British corps.

The purely military guards in the Bombay presidency have been reduced as low as is possible with regard to the safety of public buildings and Government property in military charge, but there are still many guards which should be taken by the civil police. Up to 1873 the large number of 390 sepoys were employed daily in guarding the civil jails, and the sentries were required to exercise a certain supervision over the prisoners themselves. Sir Richard Temple at that date relieved the military guards of all direct control over the prisoners, and reduced the strength of the guards by 50 per cent. His Excellency also abolished a practice which had existed for many years of convicts proceeding to Calcutta *en route* to the Andamans being escorted by military guards, and this duty is now performed by the police. There however still remain fifteen jails over which military guards, numbering 210 of all ranks, are posted daily, and eighteen civil treasuries which are protected by military guards numbering—

25 European infantry,
193 Native infantry.

The jail guards have now no responsibility whatever in connection with the safe keeping of the prisoners, and are retained merely as a support to the jail establishment in case of an *emeute*. I think therefore that these guards, except in jails containing a very large number of prisoners (say over 300 to 500) should be dispensed with, and that no civil treasury should be under a military guard. The mint guard in Bombay, on which are employed 27 of all ranks, is excessive, and should be reduced, as should also a small guard of a naik and three sepoys which mounts at the entrance of the High Court.

Yes; they might be reduced. Regimental commanding officers' guards might be done away with altogether, and in the cold season both in garrison and on active service British troops could share with the Natives in many of the guards and the duties now generally performed by the latter.

In the late campaign the British regiment in my brigade invariably took their fair share of all duties, until the weather became too hot for them to do so, and I think that they were all the better and healthier for it.

I do not think they can be reduced.

The question has been the subject of much correspondence between the Government of India and Local Governments, as well as with Army Head-Quarters in India.

Much has been done in the direction of reduction, not with a view to reduction of the number of the troops, which is impossible, but to relieve the men of too severe duties and ensure them the regulated three nights in bed.

If the duties are not too severe, it is better that they should be taken by the troops than provided for by police or hired chowkidars.

The number of guards and sentries depends on the circumstances of each garrison and can only be judged by the military authorities.

Not unless the guards furnished on the requisitions of the civil authorities are taken by the police. The purely military duties of the troops are, I believe, reduced to the lowest figure practicable.

No recent personal experience, but I doubt the possibility of any reduction on a large scale. The guards and the nights in bed are watched in this office as far as the artillery is concerned.

In some stations, perhaps, the guard duties of troops may be susceptible of reduction, though not to any considerable extent.

Police guards or watchmen should invariably be employed to keep watch over commissariat or medical stores, for instance, on the sound principle that soldiers should only be employed on purely military duties.

It is a question whether honorary guards over the residences of lieutenant-governors and chief commissioners could not be dispensed with and police guards substituted.

In some garrisons (e.g., Jubbulpore) military guards are employed for duties of a civil nature which should properly devolve on the police, such as guards on civil jails. The escorts furnished to civil and political officers when on tour should be furnished by the police and also escorts on convicts (civil). A guard on a general officer's quarters or on

Colonel J. A. Tytler, C.B., V.C., Commanding 4th Goorkhas, and lately Commanding a Brigade.

Colonel H. K. Barne, C.B., Secretary to Government of India, Military Department.

Colonel J. Macdonald, C.B., Secretary to the Government of Bombay.

Colonel A. H. Murray, Adjutant-General, Royal Artillery in India.

Colonel D. Standen, Assistant Adjutant-General, Burma Division.

Lieutenant-Colonel H. A. Little, Official Deputy Assistant Quarter-Master-General.

those of a commanding officer of a Native regiment is unnecessary, still more so on a mess house, over which there should be a chowkidar paid from the mess funds, if the servants living in the mess houses cannot be trusted. A double sentry on a treasure chest in front of the quarter-guard in quarters is superfluous.

Speaking generally, I think that guard duties might be considerably reduced. For instance, buildings are frequently placed under the charge of sentries when their safety might be sufficiently ensured by proper doors and locks and the general superintendence of the police. Without having the details of the duties of any particular station with which I am acquainted at hand to refer to, I am unable to make suggestions in detail.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

5. What is your opinion—

- (a) regarding the propriety and feasibility of having a local European army in India?
- (b) or local battalions affiliated to the line battalions at home?
- (c) or continuance of present system, but with special enlistments for Indian service?

Lieutenant-General Sir D. M.
Stewart, K.C.B., Commanding
Southern Afghanistan Field Force.

(a) I fear we cannot go back to the local service system now; though I think it was a mistake to have abolished it. It is to be recollected that the causes which made the local army so popular in former days no longer exist. The numerous subordinate appointments in the various departments of the service were filled by soldiers of the local service, and it was these openings for deserving men that led to the popularity of the Company's service. Again, the cost of living has increased so largely within the last twenty-five years, that married soldiers of the best class do not readily leave their regiments now for departmental employ. To re-establish a local European army would, in my opinion, be a very retrograde measure; for it cannot be denied that the old Company's regiments were not, *as a rule*, quite on a level with the line regiments in all respects.

(b) The objections applicable to local regiments apply with equal force to local battalions affiliated to battalions at home, if the question implies that local regiments are never to go to England.

(c) The continuance of the present system, with special arrangements for service in India, appears to me the best of the three proposals. It cannot be supposed that we shall give up altogether what is called the short-service system; but some modification of that system can surely be devised to meet the requirements of India. Various proposals have been made from time to time to meet this difficulty; but I have not seen one which exactly corresponds with that which I am about to suggest; so I give it for what it is worth. I think soldiers while engaging to serve anywhere as now should receive extra pay while employed in India. We do not expect officers to serve in India on pay which is considered suitable in England; and I cannot see why we should expect the men to do so. The expense might be met by reducing the number of officers and by strengthening the companies, an arrangement which would certainly not impair the efficiency of the army. A measure of this nature, combined with a system of enlistment which would leave the soldier, say, twelve years with the colors, would probably be popular, and certainly meet our present difficulties. Whatever the outcome of the present inquiries may be, some stringent measures should be taken to prohibit very young soldiers being sent to this country. Lads under 21 years of age seem constitutionally unable to stand the climate; and the sacrifice of life among this class is very high.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding
Oudh Division.

I strongly advocate a local European army for India as free as possible from all control in England.

The enormous expenses attending the present system must have much to do with financial troubles, as the cost of a soldier has increased so enormously of late years.

By long service there would be a large diminution in transport charges and in the cost of depôts in England. The risks of denuding this empire in case of European troubles would also be minimized.

With regard to efficiency, I believe the army would be improved. The mortality now-a-days in India is not worse than elsewhere. And acclimatized men are more healthy.

Regiments returning to Europe are notoriously more effective than those that come from it; and in former years volunteering was appreciated to the full, for, as a rule, the soldier likes Indian better than home or colonial service. He is better paid, he has much less to do, he has servants at his command, and he can save, if steady, even if married. It remains to be seen whether the present Army Enlistment Act has not

to some extent cankered men's minds; but my own impression is that a local army would be very popular, and according to old traditions there should be no lack of men.

That there will be *strong* opposition in some quarters I regard to be certain, because many interests will be affected; but I believe the change to be perfectly feasible. I believe it to be manifestly in the interests of the Indian tax-payer, and I think it should be *absolute*; for if either of the alternative proposals (*b* and *c* clauses) be adopted, there will be not only constant clashings of interest as at present, but the control of the army would still rest in England instead of in India; or, in plainer words, with the War Office and the Horse Guards, instead of with the Secretary of State for India and the Government of India.

Lieutenant-General W. F. Hughes,
C.B., Commanding Sindh Division.

I have a strong opinion that to revert to a local European army in India, into which Eurasians of good physique should be freely recruited, is very desirable. And I think that that army should be supplemented by regiments of the line specially enlisted for Indian service.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

(a) I am in favor of a local army, as formerly existed, with a *dépôt* in England.

(b) I do not approve of this system. The worst characters would be sent to India; and in the event of war in Europe, the battalions in India would not be kept up to their proper strength.

(c) This might answer, the term of enlistment being 15 or 20 years; but it would be a more expensive system for the State.

Major-General J. Ross, C.B., Com-
manding Presidency District.

Local battalions affiliated to line battalions at home would, I think, work well.

Major-General N. H. Macintyre,
C.B., Commanding Hyderabad Sub-
sidiary Force.

(a) I advocate the having a local European army.

(b) Regiments with *dépôts* in England is, in my opinion, the preferable system.

Major-General R. O. Bright, Com-
manding Meerut Division.

(a) I should strongly deprecate any such measure.

(b) I think objectionable.

(c) This I consider the best solution of the present difficulty. Every man going to India should be enlisted for ten years, with option of serving on after completion of Indian service for pension. A larger bounty might be given as an inducement, if found necessary.

Major-General H. R. Browne,
Commanding Saugor District.

(a) I should not advocate it. Regiments and batteries insensibly deteriorate as local corps. There is also a loss of the experience gained by general service.

(b) The affiliation system, so far as the existing system has shown, does not answer, and is much disliked in the service.

(c) I think the present system should continue, more freedom being given to volunteering, with less attention to character, which bears hardly on regiments, who lose their best men, and excludes many active effective men from transferring their services. I do not see how special enlistment for Indian would differ from local service.

Major-General J. W. Schneider,
C.B., Commanding Northern Divi-
sion, Ahmedabad.

To revert to a local European army in India would not, in my opinion, be now expedient. I should recommend the alternative given under clause (b) as being the easiest to introduce. Of course, it would imply enlistments for Indian service for at least 21 years. The abolition of the present costly system of reliefs, and annual drafts caused by the present Short Service Act, cannot be too strongly urged.

Brigadier-General G. Burrows,
Quarter-Master-General, Bombay
Army.

(a) I am of opinion that a local European army in India, although it may be feasible, is not desirable. I believe it would be impossible to maintain the high state of efficiency and discipline which is expected of troops in the present day.

(b) This also appears to me very undesirable.

(c) The present system I consider infinitely the best, provided men are enlisted for 12 years' service with the colors.

Brigadier-General F. W. Jebb,
Adjutant-General, Madras Army.

(a) I do not think a local European army in India would answer well, because the corps, starting afresh, would be without *esprit de corps*, and the soldiers, being banished from home for the best part of their lives, would marry East Indians, and increase the number of soldiers and pensioners' Eurasian families, which are now dying out. This is a class which, from recent enquiries that have been made, are found to be congregated in various places in the presidency, living in great distress and in the lowest degradation.

These old European soldiers, once away from the restrictions of army life, mostly become habitual drunkards, and make no effort to procure any means of livelihood beyond what their pension admits, which is an amount quite insufficient for the wants of a family. It would, in my opinion, be a sad pity to start a fresh supply of such a class.

(b) I think local battalions affiliated to home battalions would be a far preferable course to adopt, because men in the Indian battalions found unsuited for service in this country could be readily exchanged for others from the home battalions.

Many soldiers, after a service abroad of from five to ten years, have a great longing for a run home. This indulgence might be granted them by allowing a certain percentage to have a turn of service in the home battalions, which would enable those who wished to marry in their own country before taking another tour of Indian service.

I don't think the present system is a good one for India, because a soldier after five or six years' service, at the time he is becoming a valuable man in India, is sent home to join the British army reserve, and his services are for ever after lost to India. Nor do I think special enlistments would make the present system the best.

I think it would be highly advisable, feasible, and economical to have a local European army in India.

I consider the alternative (b), i.e., local battalions affiliated to the line battalions at home, would be the most appropriate and feasible.

I think if some system could be introduced for keeping European soldiers longer in the country, it would be a greater advantage to the State in every way, both as regards expense and efficiency of regiments. Under the present short-service system, very little work is had out of the men or some of them; for it often now happens that a regiment on first arrival in India has so many weak and sickly lads, that a medical committee sends them to convalescent depôts, and there they sometimes remain for months, and when they join that regiment, they have to go through a course of drill. This remark equally applies to drafts, which come out to join their corps.

There is a constant stream of men going and coming to and from depôts, and, worse than all, yearly batches of time-expired men going home, so that to see a regiment parade in strength is a rare occasion. There seems no rest and really no opportunity for a commanding officer getting his corps into order, as so many men are on the move: added to which he has no old and experienced non-commissioned officers to assist him in maintaining discipline. I should doubt the advisability of going back to the local system. Probably local battalions affiliated to line battalions at home would be the best plan to adopt to meet the difficulty; but even then this arrangement would be disturbed if the affiliated battalion at home is sent off on some service in the colonies.

Taking both an Indian and imperial view of the question, I consider it would be highly inexpedient to have so large a local army as is now required, and I much doubt its feasibility. Regarding the two proposed alternatives, I cannot give a decided opinion on their comparative advantages without information as to how it is proposed to carry out the affiliated system; but it appears to me that if higher pay and pensions are conceded for lengthened service in India, the present system is the most desirable.

I am most strongly opposed to the formation of a local European army, believing that such a force would in time become a source of weakness and danger rather than of strength to the Empire. This question does not, I presume, suggest that the whole of the European troops in India should be enlisted for local service and dissociated from the Imperial army; but even should it only be intended that a proportion, say one-half of the European garrison, should belong to a local army, I would still consider the objection to hold good. It is true that the European regiments of the East India Company were splendid fighting machines and performed most excellent service; but a modified degree of discipline only existed in them, and they required considerable management. The local force at that time was in a minority; but, even though this was the case, the mutinous conduct of certain of the corps, on the assumption by Her Majesty of the government of India, was a cause of the deepest anxiety to the Government of the day. Although Indian service is most valuable to every soldier of the British army, affording almost the only opportunity open to him of a practical study of his profession, I believe that service in India alone would have a deteriorating effect both on the morale and physique of any body of troops. However carefully local European regiments might be trained, officered, and disciplined, it would be impossible in practice to secure to them the same status and prestige which would belong to regiments of the British service; and the knowledge that this was the case would help the deteriorating process. The perfectly cosmopolitan character of the army of England, and its freedom from sympathy with any class of the community, are among its highest qualities; and these could not be

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

Brigadier-General C. T. Aitchison, C.B., Commanding Bombay District.

Brigadier-General F. G. Kempton, Commanding Ceded Districts.

Brigadier-General J. I. Murray, C.B., Commanding Mooltan Brigade.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

looked for in a local army, whose sympathies would first be Indian and local, and imperial only where those interests did not clash with their own. I can imagine how difficult it would be for the Government from time to time to resist the requests, petitions, demands of a local army, which, beginning as a servant, would probably end as a master. Looking at this matter from the point of view of the British army, I would regard with equal disfavor any arrangement which would deprive the regiments of the Imperial army of a tour of duty from time to time in India, as I think such a tour, if not too prolonged, is productive of much advantage to both officers and men. India has always been a good school for practical soldiering; and the extension of the frontier, which has brought us in more immediate contact with warlike tribes, and made frequent collisions with armed bands of marauders probable, will improve its capabilities as the scene of military education. To deprive the British army of these advantages, and limit it to the lessons to be learned at Aldershot, would, I conceive, be a national loss.

Such a system as that indicated in this question, though not so objectionable as a purely local army, is, I consider, very undesirable. The local battalion would, it is true, have a nominal connection with the battalion at home, but in effect it would in time come to hold a very inferior position. Officers who found living in England inconvenient, from any of the many reasons which may be imagined, would be passed or would pass into the Indian battalion, with the natural result of the lowering of the prestige of the corps; and the deteriorating effect of this arrangement would quickly permeate to all ranks. Something similar would also happen in the case of the men, as the best and smartest would seek a return to England, while those alone would remain who disliked the greater drudgery of home soldiering, or who had formed ties and connection in the country, which made their return to England distasteful or impossible. Such battalions—and this holds good of purely local regiments—would necessarily have a large proportion of married soldiers (whose wives would generally be country-born women, Eurasians or even Natives), and thus a heavy item of expense, now daily decreasing, would be entailed on the Government.

The cost of the British army in India may be looked on as the sum which is paid to ensure the safety of the Empire; and though the amount is a heavy one, it is not great when compared with the vast interests it represents. Looking at the matter in all its bearings, I believe that every consideration of policy requires that a force of British soldiers not less than that now garrisoning the country should be maintained in India, and that this force should, as at present, be furnished from the Imperial army and periodically relieved. I cannot conceive any arrangement which would reconcile the demands of Indian service and the existing plan for the formation of a reserve for the home army, to which latter apparently the former has been altogether sacrificed. I think therefore that the Imperial Government must now, in the interests of India, resign all expectation of obtaining from that portion of the army which is employed in India any quota of men for the first reserve. To arrange this matter no change in existing law and no legislative enactment seems necessary, the Army Enlistment Act of 1870 appearing amply to meet the requirements of the case. Under that Act soldiers can be enlisted for 12 years, and were so enlisted until the issue of Horse Guards General Order No. 18 of 1878, which directed that all enlistments for infantry should be for short service only, *i.e.*, six years with the colors and six years with the reserve,—an arrangement incompatible with the requirements of Indian service. It would seem sufficient therefore to revert to the enlistment for 12 years, requiring that service from men who were in India, or about to proceed there while under the power given by paragraph 2, clause 3 of the Act, all men whose regiments were serving at home or elsewhere than in India could be permitted to join the reserve after six years' service with the colors. The power to pass men to the reserve before they had completed six years' service is so detrimental to real efficiency, that it ought to be abrogated, or never availed of. This arrangement would of course materially reduce the numbers annually passing into the reserve; but this is unavoidable and only goes to prove what all must be aware of, that a system which suits continental armies, on whom no demands for foreign service are made, is not applicable to an army which has to supply garrisons in every part of the world.

Colonel J. A. Tytler, C.B., V.C.,
Commanding 4th Goorkha, and
lately Commanding a Brigade.

(a) I think that a local European army in India would be both feasible and in every respect the best that could be.

(b) No; I would not have them affiliated to the battalions at Home.

(c) I would have them, as they were formerly, a separate service expressly for India.

Colonel H. K. Burne, O.B., Secretary to Government of India, Military Department.

(a) It would doubtless be quite feasible to raise and maintain a local European army for India; but while it would be desirable on financial grounds, looking at it from an Indian point of view, I do not think it would now be expedient in the general interests of the Empire.

(b) I doubt if such a measure would answer or could be satisfactorily worked, unless on a double battalion system, one of which should be permanently in India, and to which men enlisting for long terms of service could be sent. From recent accounts the system of linked battalions introduced in the British army appears to have broken down.

(c) I would advocate a continuance of the present system with special arrangements for enlistments or renewals of service for India, so as to obviate the necessity and the enormous expense of the reliefs.

Colonel J. Macdonald, O.B., Secretary to Government of Bombay, Military Department.

(a) The formation of a local European army has much to recommend it. It would cost less than the present system of garrisoning India by troops from home. If adopted at all, it should be so thoroughly, that is to say, the European force in India should be solely local. No batteries or corps belonging to the home establishment should be sent to India. Under this arrangement the necessity for the existing very expensive transport service between England and India would cease. The transfer of troops to and from England would be reduced to a moderate annual supply of recruits to India, and to the carrying home a smaller number of time-expired, invalided or discharged men from India. This transport service could be carried out by contract.

(b) A thoroughly local army would be preferable to creating local battalions to be affiliated to certain line battalions at home. But should this latter course be adopted, it would be more economical than the existing system, and would ensure, equally with a purely local army, the troops being thoroughly acclimatized. The gain, by adopting either a purely local force or by using affiliated battalions for the European garrison for India, would be considerable financially.

But notwithstanding the admitted advantages of having either a purely local army or affiliated battalions for constant service in India, I am of opinion that—

(c) the continuance of the present system, but with special enlistments for India, is by far the most preferable. The chief objection to raising a local European force for India is that it would sooner or later deteriorate. It might perhaps be considered sufficiently good for the requirements of the service in India, but it would eventually become second, and not, as it should be, in every respect equal to the home service. This should be avoided. There should be no distinction in the character or tone of that part of the army serving in India, and the corps employed either at home or in the colonies.

The existence of a local army in India would prevent the troops of the home establishment benefiting by serving in India, which now affords an excellent school for the service at large.

What renders the home troops so expensive in India is their constant relief, and the extravagant manner in which the reliefs are carried out. Much of this would be avoided if the men were enlisted to serve twelve years with the colors, and when their regiments are ordered home, were allowed to volunteer to corps remaining in India.

A reduction in the cost of the European force might also be effected by increasing the strength of battalions. The existing establishment of commissioned officers and regimental staff would be sufficient for the larger number of men. If each battalion serving in India was kept up to the strength of 1,000 to 1,100 rank and file, the services of two or three battalions might be dispensed with, which would save the State a considerable outlay, and would bring down the cost of the European force for India to an amount not excessive, considering the enormous interests at stake.

Colonel J. Michael, C.S.I., Secretary to the Government of Madras, Military Department.

I think that the revival of a local European army in India is feasible and very desirable, and that the best plan would be to have local battalions affiliated to line battalions at home. There would be considerable elasticity in such a system. Officers and men found unsuited to India need not be altogether lost to the service, but might be allowed to exchange into the home battalion; and many other inter-regimental arrangements might be devised, beneficial to the service and conducive to economy.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

I think the best arrangement would be to have local battalions affiliated to the battalions at home, permitting of such men as are unfit for service in India to serve at home; or, if this is not found feasible, I would revert to local battalions, but it should be arranged that all officers should have a share of home service. This I think necessary in the interests of discipline; also that men unfit for India should be transferred to serve at home.

These battalions might be formed of volunteers kept up by similar means and by special enlistments.

Colonel D. Standen, Assistant
Adjutant-General, Burma Division.

(a) I would not advocate a local European army for India, if only for the following reason. The Home Government should most certainly have the power to detach for active service elsewhere any portion of the British army in India under special circumstances of urgent necessity which might at any time arise; provided this could be done—as under good and fitting arrangements it undoubtedly, I consider, could be done—without risking the safety of imperial interests in this country.

(c) I think that the present system should be continued, though some alteration in the existing short-service system should be effected as far as regards India at any rate,—a system involving so very heavy an annual expenditure on “transport charges.”

It is believed, however, that the system in question has not injuriously affected the efficiency of the British army in India to the extent generally supposed; for it has been found that many soldiers come forward to renew their service at the expiration of their first period of limited army service.

Still, if it be decided that the present system of enlistment for short army service is to continue in its integrity, there can be no doubt that special enlistments for India would be highly advantageous, or inducements of some special kind might at least be offered to encourage the men to remain a further period with the colors.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant Quar-
ter-Master-General.

A local European force for India has everything to recommend it: it is cheaper. Men would enter it from preferring service in India to any other service, and would therefore be contented, which affects much the efficiency of a force. These soldiers would be acclimatized; and although medical men may hold a different opinion, I know by experience that British soldiers after fifteen years in India or even longer service are not knocked up by the hardships of a campaign in the way I hear that the young boys sent out from home as soldiers now are. I do not consider that regiments require to go home to be “brushed up.” The majority of regiments that go home—and I have seen many of them passing through Jubbalpore during the five years I was stationed there—are much more efficient in appearance than those coming out.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

(a) I think there are a good many objections to a purely local European army, both as regards officers and men.

I think that the efficiency of the army in India is increased by having officers who have seen service in other countries. While India is undoubtedly our best military school for officers as affording more chances of seeing active service than any of our other possessions, I think it would be a pity to run the risk of having no officers with wider experiences.

As regards men, it would appear that in case of their health breaking down in India, there would be no way of dispensing with their services except by inflicting hardship on the men, or causing heavy expense to the Indian Government.

Again, I do not think that men should be sent out to India before they are 22 years of age. This is obviously too late an age at which to enlist men; whereas if they were enlisted for local service at an earlier age, it is difficult to see how they could be employed before being sent to India.

A purely local army would almost certainly entail having a large proportion of married men in the ranks,—a state of affairs which not only more or less interferes with the efficiency of a regiment, but causes heavy expense to Government.

If the European army was again made local, the practice of marrying Native women, which has of late years become very rare, would be likely to be of frequent occurrence. This, I think, few would consider to be desirable.

(b) Although perhaps a scheme which would require a great deal of working out, and although the system would require careful watching to prevent abuses, I think on the whole that the plan of having affiliated battalions would prove the best of the three under consideration.

Of course, the short-service system at present in vogue in England would have to be given up, but that appears likely to die a natural death, and is condemned by an immense majority of military men.

With affiliated battalions, officers might be transferable after a certain number of years' service either at home or in India, but with the option of exchanging if they can make the necessary arrangements. Promotion to go on in both battalions; and officers of course to take their chance of transfer on promotion.

It would probably be found that there would always be a sufficient number of officers willing and anxious to serve in India; but they would not always be the same, so that one disadvantage of a purely local army would be avoided.

As the adoption of the system under consideration would appear to be dependent upon a reversion to the old system of long service, I would recommend that men should be enlisted for not less than ten years and for general service. For at least two years, and until attaining the age of 22, men would serve with the home battalion or with the combined depôts of the home and Indian battalions, should the former be on foreign service. On completing the necessary service they would be liable to be sent to the Indian battalion in such numbers as might be required. Should the number available be in excess of the number required, volunteers might be permitted to go in place of men who wished to remain at home, provided no war was going on. In case of war, of course, men would have to go as it came to their turn.

Should it be found that men were unable to stand the Indian climate, they might be remanded to the home battalion, many a man who is invalided from India being perfectly fit for any service in a temperate climate.

On the expiration of five years, men should have the option of returning to England, or be obliged to do so should the home battalion require them, care being taken that the home battalion never degenerated into a mere depôt for the Indian battalion, but that a fair proportion of old soldiers should be maintained in both. By this system it would probably so happen that the home battalion would consist (so far as the first term of enlistment) of men in the first three and last two years of their engagement, while the Indian battalion would be composed of men of between three and eight years' service.

After the completion of ten years' service, it should be optional for men to re-enlist for a further period of, say, seven years for India, or ten years for general service, no man being allowed to re-engage unless his medical history was satisfactory. During the first term of service no soldier should be allowed to marry, and during the second only a limited percentage; and regulations would have to be framed to prevent an undue proportion of the married general service men being sent to the Indian battalions.

The position of sergeants should be improved, and they might all be permitted to marry after ten years' service.

The above is of course a very rough sketch of a system which would require a great deal of thought to elaborate.

(c) Having explained my views under heading (b), I need only add that I should prefer a continuance of the present system, with special enlistments for India, to a local European army.

There should certainly be a large local force of *all three arms*, supplemented by regiments and batteries from England composed of men specially enlisted for Indian service.

The present system is utterly unsuited to any country, more especially India.

6. What do you consider to be the best tactical and administrative unit for peace and for active service in India (army-corps, division, brigade), and how should it be constituted?

Lieutenant-General Sir D. M. Stewart, F.C.S., Commanding Southern Afghanistan Field Force.

It is very desirable to lay down and define tactical units for field service; but the circumstances existing in India do not admit, as far as I can see, of these units being identified with the administrative commands, at any rate in their details. I can see many advantages in forming the forces into army-corps, which shall serve within the limits of the five great local Governments of India; but there would be little profit in discussing the question, unless there is a decided wish to break up the existing machinery,—a step which would involve the abolition of the office of Commander-in-Chief in India and the formation of a War Ministry on something like the French model. The relative advantages and disadvantages of this system were so fully set out by the late Lord Sandhurst when he was in India, that I have nothing to add to them. As regards the constitution of tactical units for field service, I do not think we could do better than follow the home system, at any rate in principle, due allowance being made for local peculiarities.

Of the three alternatives, I advocate the army-corps—

- (a) to complete organization in all details;
- (b) to secure decentralization to the utmost extent;
- (c) to be a means of localizing Native regiments, which I believe to be essentially necessary on military and political grounds;
- (d) to do away with as many separate commands as possible;
- (e) to relieve the work of head-quarters, especially from many needless references which now waste time.

The constitution of such corps, as laid down for the British army, differing but little from those of European continental armies, which

Lieutenant-General C. T. Chamberlain, O.S.I., late Commanding Oudh Division.

have been determined after careful consideration and practical experience, might continue as at present, but with an additional number of field-guns.

The physical features of the country and other circumstances must more or less affect the disposition of the various arms; but that would not affect organization.

Lieutenant-General W. F. Hughes,
C.B., Commanding Sirhind Division.

I consider the best tactical unit on service to be the company; the best tactical and administrative unit for both peace and war to be the division; to consist of engineers, 4 batteries of artillery, 1 brigade of cavalry, and 3 brigades of infantry.

Each regiment, battery, squadron and company complete in itself.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

As it is at present.

Major-General J. Ross, C.B.,
Commanding Presidency District.

The constitution of army-corps would be best for India. Four would suffice.

Major-General A. H. Macdill,
C.B., Commanding Hyderabad Sub-
sidiary Force.

A brigade, constituted as follows:—

- 1 regiment of cavalry.
- 1 battery field artillery.
- 1 regiment European infantry.
- 2 regiments Native infantry.
- 1 company sappers.
- Brigadier-general.
- Deputy assistant adjutant-general.
- Deputy assistant quarter-master-general.
- Baggage-master.
- Staff surgeon.

Major-General R. O. Bright, C.B.,
Commanding Meerut Division.

The division constituted as at present.

Major-General H. R. Browne,
Commanding Saugor District.

I should conceive that the legitimate tactical unit for both purposes is the army-corps. Bengal, Madras, Bombay, and the North-Western Frontier appear natural territorial divisions for such corps. I do not think they should differ in war from their peace organization, excepting in the actual regimental establishments. The strength and details of these corps would necessarily differ considerably, but that need not prevent a uniform organization. Corps to be commanded by lieutenant-generals and to comprise all the troops in the territorial limits. Divisions to be commanded by major-generals, and to consist of three brigades of infantry, a brigade of cavalry, and from four to six batteries of artillery. Brigades to consist of three to four regiments under brigadiers; divisional artillery under senior officers of that arm. Administrative circles should correspond with the territorial commands, the heads of the respective departments being stationed at army-corps head-quarters, and their deputies with the divisions. I should think that an organization of this nature might be effected without increased expense, and without much disturbing the existing locations of troops. Much advantage would result in all points of efficiency, discipline, and economy from getting rid, as far as possible, of small outlying stations and concentrating the troops at the larger ones.

Major-General J. W. Schneider,
C.B., Commanding Northern Division, Ahmedabad.

A division appears to me to be the best tactical and administrative unit for peace and for active service. It would of course consist of the usual two brigades. Each brigade would be formed of one British and two Native infantry regiments with horse or field artillery, and with a mountain battery, if necessary, and cavalry.

Brigadier-General G. Burrows,
Quarter-Master-General, Bombay Army.

I consider the brigade the best tactical and administrative unit for peace and for active service in India.

Brigadier-General H. H. A. Wood,
C.B., Commanding Deesa Field Brigade.

The brigade, consisting of the three arms, is, in my opinion, the best tactical and administrative unit. It admits of easy expansion.

Brigadier-General C. T. Aitchison,
C.B., Commanding Bombay District.

If I understand the question correctly, I should say the division, composed of two or three brigades, with proportion of all other arms. The brigades, both cavalry and infantry, should consist of one British and two Native regiments.

Brigadier-General F. G. Kempster,
Commanding Ceded Districts.

I think the brigade is best adapted for this country to be constituted thus:—

- 1 battery of artillery.
- 1 regiment Native cavalry.
- 1 British infantry regiment.
- 2 regiments of Native infantry, or perhaps 3 complete with its own staff.

Brigadier-General J. I. Murray,
C.B., Commanding Mehar Brigade.

Considering the varied nature of active service the Indian army has to perform, and the special distribution of troops required to hold the

country against internal as well as external enemies, I do not think that any one tactical and administrative unit could be adopted for peace and war, and certainly not for the latter.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

As long as no European power interferes between us and our neighbours, feudatories and subjects, a small and compact force will, I believe, better than a large one, maintain our prestige and obtain at the least expense and risk the maximum of success. I therefore consider the brigade is the best tactical and administrative unit, as, in addition to the foregoing reason, it is evident that by the junction of three or four brigades a division can, when required, be quickly formed, and the expansion could then proceed as far as necessary. In peace time and for the general administration of the army the three formations of brigade, division, and army-corps are necessary to complete a chain of responsibility and avoid the dangers and delays attending on too great a degree of centralization.

Colonel J. A. Tylor, C.B., F.C.,
Commanding 4th Goorkhas, and
lately Commanding a Brigade.

I prefer the brigade as the most handy and most useful for most work; to be constituted as follows:—

- 1 British regiment.
- 2 Native regiments.
- 1 Native cavalry regiment.
- 1 battery, artillery.
- 1 company sappers.

Colonel J. Macdonald, C.B., Sec-
retary to Government, Bombay.

The brigade.

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in India.

I consider the best tactical and administrative unit for peace in India should be army-corps, to be divided as far as possible into divisions and brigades, having due regard to local requirements; artillery to be similarly distributed.

It does not seem practicable in India to have in every case a distribution of the army-corps so that each division, or even brigade, shall be compact and located at the same place, but they should be told off and occupy their place in each army-corps.

I do not think the division system can be extended to active service in India, and brigades will be the only possible unit for war; but when troops are required, a complete brigade should be taken whenever practicable, or as many troops as are required from any one brigade. In employing small forces less than a division, artillery and also cavalry will have to be attached; but these should also be taken, if possible, from the same division of the army-corps to which the brigade furnishing the infantry belongs.

I am not sure that I clearly understand the question.

Major A. A. A. Kuloeh, Deputy
Assistant Quarter-Master-General.

Very much would appear to depend upon the part of India in which troops were serving, either in time of peace or war. I therefore do not attempt to answer the question.

7. Give your views and practical suggestions on the best means for a rapid mobilization of a portion of the army for war.

Lieutenant-General Sir D. M.
Stewart, K.C.B., Commanding South-
ern Afghanistan Field Force.

In the Bengal Presidency the troops are, in theory, at all times prepared to take the field at a day's notice. For service in India the troops are in possession of everything needful except transport. What is required to perfect the system is the establishment by regulation of a scale of equipment and establishments suitable for war under all circumstances, as suggested in the answer to question 3, *Troops*. The question of a transport is important; but this is not the place in which it can best be treated.

Lieutenant-General C. T. Cham-
berlain, C.S.I., late Commanding
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In answer to question 3, I mentioned the need for reserves.

In answer to question 6 (clause c), I have noted my belief in the value, or I may add *necessity*, of "localizing" Native troops. I have recorded my opinion that the system of weak single battalions is unsuited to speedy mobilization in the highest degree.

This was strikingly exemplified when troops were suddenly sent to Malta, and again in the late Afghan War.

In the former instance, the 6th Native Infantry, quartered at Lucknow, furnished volunteers to the 31st Native Infantry.

In the second case, all the batteries in Oudh were requisitioned for men and horses to the injury of their own efficiency.

To look the matter plainly in the face, it is necessary to create the means of mobilization.

At present there is no system of transport. There are no reserves to be mobilized, and our organization stands shipwrecked at the very outset!

In writing about "reserves," I of course only deal with the Native army, and I am well satisfied of the advantages to be derived from

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This was strikingly exemplified when troops were suddenly sent to Malta, and again in the late Afghan War.

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To look the matter plainly in the face, it is necessary to create the means of mobilization.

At present there is no system of transport. There are no reserves to be mobilized, and our organization stands shipwrecked at the very outset!

In writing about "reserves," I of course only deal with the Native army, and I am well satisfied of the advantages to be derived from

local regiments, in preference to the present composition of the bulk of the army.

The excellent behaviour of my own corps (1st Bengal Cavalry) during the mutiny, which drew the whole of the ranks from Delhi and the country within a radius of, at the utmost, 60 miles, fully satisfied me that the reliance the men had upon each other, and the knowledge of each other's feelings and circumstances were the loadstones which held them together. In fact, they openly ascribed their fidelity to this close borough system.

Upon this principle I believe that our ranks would be far more easily filled, and the service would be far more popular, if certain *locales* furnished the ranks of certain corps.

For instance—

Dinapore, in Bengal Proper,
Fyzabad, in Ondh.
Bareilly, in Rohileund,
Delhi, in the Punjab,
Umritsur, ditto,
Rawal Pindi, ditto,
Peshawar, ditto

(or any equally convenient centres), might be (and I think should be) the *head-quarters* of a brigade of regiments, one of which would always be quartered there as the nursing battalion, enlisting and drilling recruits, annually drilling the reserves, filling up the ranks of the two, three, or four absent battalions, as may be receiving the sick of these battalions paying the families, and paying the pensioners.

Under some such arrangement, mobilization would be not only simple, but certain and rapid; and the men's relatives and friends would, I believe, come in goodly numbers for enlistment when called upon.

Esprit de corps would then be a reality, interesting as it never has been, and there would be a guarantee for fidelity and good behaviour which is now unknown.

The influential men of such districts would be glad to see their sons and relations serving as officers in corps in which they were personally interested.

The rank and file would accept those officers as their known superiors in position, birth, and wealth, and they would be influenced by those officers.

Then there would be a deep sympathy amongst corps and districts; then there would be indifference about others, and probably antipathy (which would not be bad); and above all, there would be the best security for the State against combination and popular disaffection.

None of these advantages obtain under present organization, and I aver that mixed or composite regiments possess all the elements of leaven for evil which leavened the Bengal army so effectually and so rapidly in 1857.

In these particular corps recruits are collected from districts far apart, whose inhabitants differ in race, in customs, in habits, in climate, and in sectarianism; and yet we look to these discordant elements as a source of strength when welded under the hammer of discipline!

Take the matter of recruiting. Most men must be at a distance from the locality of the regiment or dépôt to which they are to be sent. Many that are passed as "fit" at the stations nearest to their homes are declared "unfit" on arriving at their destination, because two sets of officers have to be pleased.

Even those that are approved have cost the State the expence of their conveyance. Those that are rejected cost double. Now, this outlay would be absolutely unknown under local enlistment for local battalions, and rejections would be unknown.

To my understanding it would be almost impracticable to form reserves of any value if the present organization lasts! How are the men to be called up for drill annually? And how are they to be identified when they join their corps?

I would ask, will the commanding officer of the (cavalry or infantry, as the case may be) regiment take much concern about the reserves of every corps but his own? And will not his own reserves be equally perfunctorily cared for by the other commanding officers wherever they may be quartered? Yet some such compromise would have to be come to, for the State would hardly pay annually for reserve men travelling indiscriminately about the country to and from regimental head-quarters.

In time of war, when they would have to join, there would probably be much confusion and some considerable inefficiency.

On the other hand, local reserves would assemble without cost, without confusion, and with cheerfulness. The delicate and the dull would at once be drafted to the battalion at head-quarters, releasing

the more efficient and capable men for the active battalions, and the only outlay would be in despatching to the front.

Then, again, by having local battalions Government could utilize many men of the invalid establishment, who are often capable of doing cantonment duties. There are, I believe, *hundreds* of those about.

It would be very wrong to run away with the idea that all men invalided are invalids!!

Take the primary causes:—

(a) Of those who are real invalids from existing ill-health, some, ay several, recover thoroughly after a long residence at their homes.

(b) Some men work up for the invalid establishment owing to disappointments at not being promoted or from some caprice.

(c) Some are invalided by commanding officers for "military cause"—slovenly, bad duty men, stupid on parade, and so on.

Many who repent, and others who know not the comforts of a full stomach, would be only too glad to exchange their pittance of a pension for re-employment, even temporary; but anyhow as the State has a claim upon them, they should be reckoned upon as a sort of help in time of war.

Pension paymasters could be amongst the officers of the past if pensions could be paid at local head-quarters, after medical examination as to fitness, and after due classification of the kind of duty for which capable. In this way, many would do something in time of need, instead of eating the bread of idleness; moreover, *then frauds upon the pension* would be impossible, as every man would be known.

Invalids should not be discharged from regiments until found to be absolutely unfit for *any* duty, but their names should be "seconded," and they should understand that disobedience to a summons entailed dismissal from pension.

With local battalions long furloughs would be quite unnecessary, whilst frequent short leaves might be practicable. Those whose family business necessitated their presence at their homes could be drafted to the local battalion, and thence transferred to the reserve upon reserved pay, reserve men being sent to the colors, to fill their vacancies.

This course would be *immensely popular*, being the very best advertisement of the charms of Government employ.*

Without *fixed head-quarters of battalions* in brigade, I believe effect-ive mobilization to be a negative quantity.

For the immediate creation of reserves in *infantry*, I would open permanent furlough upon some small pay, 2 or 3 rupees a month, re-arranging in lieu or absorbing the men in excess of peace strength.

The *cavalry* branch will demand special consideration, as horses and ponies must be kept up efficiently. Expense under this head is unavoidable.

It may be that commandants have been asked to submit some scheme of the kind. At their homes, of course, the men could feed animals economically, and probably they would do a good deal of breeding to boot. This would be advantageous every way.

Finally, it seems to me that by establishing strong brigades, it might be easy to return to the system of *regimental promotion*, all officers in each brigade being interchangeable for service in any battalion as in the Rifle Brigade.

In fact, then, the staff corps should be abolished by drafting officers into cavalry and infantry regiments, "seconding" all on staff employ.

There can be no relief from the extravagance of the staff corps system, so long as it has no less than 42 general officers and 527 field officers, or 569 superior officers to 418 captains and subalterns.

With regard to the transport required in the process of mobilization, I would suggest that district officers should be required to ascertain the available means, and to keep the chief military commander informed thereon, so that data be available in case of the resources of the cavalry being demanded.

By keeping certain divisions or brigades fully equipped for immediate service and complete in camp equipage (of the lightest description compatible with efficiency) and marching establishments. Transport cattle and carts sufficient to move a wing of a regiment and half a battery should be attached to each regiment and battery of the force so equipped. If it should be necessary on an emergency to move a full regiment or battery, other regiments or batteries of the same or another brigade might be indented on for transport cattle; and the regiment or battery thus denuded of transport would indent on the brigade reserve (see answer to question 7, Transport J) for an immediate supply.

Lieutenant-General W. F. Hughes,
C.B., Commanding Sirhind Division.

* The relief of the local battalion would bring the men of the other battalions to their homes in turn.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

Major-General J. Ross, C.B.,
Commanding Presidency District.

Major-General A. H. Macintyre,
C.B., Commanding Hyderabad
Subsidiary Force.

Major-General R. O. Bright, C.B.,
Commanding Meerut Division.

Major-General H. R. Browne,
Commanding Saugor District.

Major-General J. W. Schneider,
C.B., Commanding Northern Afghan-
i-tan Field Force.

Brigadier-General G. Burrows,
Quarter-Master-General, Bombay
Army.

Brigadier-General H. H. A.
Wood, C.B., Commanding Deccan
Field Force.

I can see no difficulty in a rapid mobilization of a portion of the army for war, if regimental transport is kept up under a European officer with non-commissioned officers and men properly instructed in the care of mules, loading, feeding, fitting, saddling, &c., &c. Troops first for service should be disposed in peace on lines of rail, consideration being taken as to where their services will most likely be required.

This would vary so much in different parts of India, and so much information on details which I have not got is required, that I can give no practical suggestions on this point.

Tell off a certain number of corps of the different branches of the service to be always ready and complete in every respect for active service. Such corps must be stationed close to the line of railway on the same principle that certain troops in each district or division are told off for a moveable column.

Railway carriages should be better adapted for the conveyance of horses and cattle than they are.

I do not quite know how to answer this question. Mobilization means calling out reserves of men and horses and placing the army on a war footing from the peace establishment. In this country no reserves exist, and the army is kept practically always on a war footing. The only thing requisite to enable it to move anywhere is carriage, and in the absence of any organized transport, that must be supplied by the civil authorities. The time necessary to collect it would depend on so many contingencies, that it is impossible to make any calculation.

The situation of the army in India is very peculiar and exceptional, distributed as it is over an immense extent of territory, chiefly in comparatively small stations. I hardly think that schemes for concentration are practicable. In all Indian wars the necessary troops have been got together by detachments in such a manner as not seriously to inconvenience the localities from which they have been drawn, of which the recent concentration on the North-Western Frontier is an example. As far as I have had the means of studying that concentration, it has been under the circumstances remarkable for the rapidity and precision with which it was effected. But it had nearly reached its limit. Corps south of a certain line had begun to feel very sensibly the drafts made upon them to supplement the different services with the troops in the field. The first step in measures for more rapid and extensive concentration must be the organization of the army itself in corps, divisions, and brigades, with their respective staffs. Regiments and corps brought hastily together, unknown to each other and to the staff appointed to them, can never develop the powers of concentration and movement that they would otherwise be capable of.

This could be best carried out by abolishing the present system of scattering single regiments over the Presidency, and by bringing an entire brigade together at given strategical points. The lines of communication could be kept open by properly organized police, commanded by military officers.

Troops in India may be said to be always ready for war: the question of mobilizing them rests mainly on the means of transport available for the particular service required, and the state of preparation of the supply departments.

Most of the large military stations in this presidency are on railway lines; and, if required to move by rail, mobilization would be rapid. If, on the other hand, the service to be performed was of a local character involving a march through the country, the civil departments would be called on to provide the necessary carriage.

The description of carriage varies according to localities, and the time required to collect it cannot always be exactly stated.

At Poona it would take two days to provide carts for a Native infantry regiment, and four or five days for a regiment of British infantry.

I cannot see any method by which the present system can be improved except by organizing a permanent transport train; and, in my opinion, the circumstances of India do not require the adoption of such a costly measure.

The short service system gives undoubtedly the most rapid means of calling into active service troops not previously on a war establishment; but it might not be considered advantageous to distribute a large number of Native soldiers, subject to little or no control, throughout India.

A safer course would be to oblige the pensioners (of which there must always be a considerable body) to take in time of war the garrison duties, to the extent required, of the regular army.

Whilst so embodied, they should, of course, be put on the same footing with regard to pay as the regular army, and they would thus, as it were, take much the place of the militia at home; more advantage might also be taken, and with perfect safety, of the volunteer movement by the formation, in India, of Eurasian and Parsi volunteer corps. The latter affect anything English, and would form a very effective body under European officers; they might be computed roughly at between 40,000 and 50,000 in the presidency town of Bombay alone. Surat is stated to contain even more; and in Baroda, Poona, and several other places in India, they are found in large numbers. As a rule, they speak English, and their interests may almost be considered identical with our own in the maintenance of British Government.

Brigades should be located in certain strategical positions. I would beg to refer my "Notes on Re-organization," p. 145.

If the third battalion system was introduced, the service battalions should be located in brigades in these positions.

I don't fully take in this question as to the best means of mobilization of a portion of the army. I only know that brigades must be brought together to form divisions, and so on.

I think troops would be better placed, if complete brigades were sent on service, *i.e.*, brigades as they stand with their own staff, as they know each other and are accustomed to act together.

Troops should be, as much as possible, located on lines of railway; and where this is not practicable, and carriage is not readily procurable, it should, if considered necessary, be kept up for the purpose.

The points of assembly should, as much as possible, be at railway junctions, such as Allahabad and Lahore.

I understand the term mobilization, as used in this question, to refer to the preparation of troops generally for active service, as there is no source from which regiments in India can be rapidly brought up to war strength, nor any reserves or unembodied corps to be mobilized.

The army, of India may therefore be said to be always on a war footing, and I fear that for many years yet it will not be possible to dispense with this precaution, as it seems to me necessary for the safety of the Empire to maintain in this country the *appearance* as well as the reality of strength. To an European administrator weak cadres and a strong reserve represents a satisfactory state of things, but here a palpable display of military strength seems a necessity. It would therefore appear that, as the mobilization of a portion of the army for war does not entail the calling in of the reserves, the rapidity with which the preparations and concentration of the troops can be effected will depend on the efficiency of the supply departments, the existence in the Government stores, or in private hands, of the various articles required for the soldiers' outfit, and the completeness of the lines of communication with the spot at which the army is to be formed. These are matters which demand ever watchful care in peace time and the expenditure of State funds.

I do not think that there should be any difficulty in mobilizing a portion of the army for war, were it always kept up on a war footing, as it should be in a country like India, with a good moveable column transport always ready to hand.

As reserves do not exist, the process of mobilization would consist of increasing the strength of certain batteries and regiments to a war footing and bringing them together where their equipment could be more conveniently carried out. The rapidity with which mobilization could be effected would, therefore, mainly depend upon the capabilities of the several departments of supply, and the facilities for concentration afforded by the lines of communication. To ensure rapid mobilization, all details of the process require to be carefully watched even during times of peace, and must necessarily cause considerable expenditure.

If army-corps are established, a certain proportion of brigades with transport, &c., should be kept up to war strength.

I would, in the absence of all practicability to move an army-corps or division intact from any one district or circle, form divisions of such brigades as are kept ready for service, in the meanwhile, expanding the nucleus of a certain number of the remaining brigades on peace establishment to war strength. Thus in a short time one army-corps composed of divisions formed as above suggested could soon be in the field.

It is manifestly impossible to keep any one army-corps or division in itself intact-ready to take the field, and for political reasons impossible to move them if they were formed in such bodies.

Brigadier-General C. T. Aitchison, C.B., Commanding Bombay District.

Brigadier-General F. G. Kemperster, Commanding Ceded Districts.

Brigadier-General J. I. Murray, C.B., Commanding Mooltan Brigade.

Brigadier-General H. F. Brooke, Adjutant General, Bombay Army.

Colonel J. A. Tytler, C.B., V.C., Commanding 4th Goorkhas, and lately Commanding a Brigade.

Colonel J. Macdonald, C.B., Secretary to Government of Bombay, Military Department.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Under these circumstances, I think the brigade will be the only unit possible and practicable to move intact; and as such, the course above suggested seems to me the only feasible one of dealing with this question.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant Quar-
ter-Master-General.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

Provide regiments permanently with mules for carriage of ammunition to be used in the puekallee establishment in time of peace, register name and residence of owner and description of carriage in his possession throughout each civil division, legalize the pressing of carriage, and any regiment might be mobilized without difficulty in 72 hours.

The strength and composition of the force to be assembled having been decided upon, the transport animals (or a large proportion of them) attached to various regiments should at once be sent to the nearest railway station from whence they could be despatched to the appointed rendezvous.

Of course, if troops were sent from the station, the carriage would be utilized by them, and supplemented, if necessary, by carriage drawn from the district through the civil authorities; the additional carriage to be discharged at the railway station if it were found that the total amount of carriage drawn from regiments would be sufficient for the wants of the force, or if it were ascertained that extra carriage could be more cheaply and easily provided at the place where the troops would again leave the rail, or be assembled.

When carriage was thus withdrawn from regiments, it would be replaced locally as soon as possible.

Elephants, horses, mules, and bullocks can be very easily conveyed by train, ordinary cattle-trucks being easily adapted for the former. I have never seen camels conveyed by rail, but can see no difficulty in doing so.

The resources of every district as regards the supply of baggage-animals should, of course, be known to the civil authorities; and a register of all such animals should be kept, so that they might quickly be obtained when required.

Transport officers should at once be nominated in numbers proportioned to the force, and the transport service at once organized by brigades and divisions. The regimental transport ought to be complete, the system recommended in reply (3), Transport, being in force.

The capabilities of the railway as regards the conveyance of troops and animals of all sorts should be generally known. There seems to be little difficulty in arranging the proper working of troop trains: at the commencement of the late campaign, the railway companies, as far as I saw, were quite equal to the emergency, and worked admirably.

8. In what time could the troops in the district or division under your command (or with which you are connected) be concentrated near the most adjacent line of railway, leaving sufficient for the garrison of the several stations?

Lieutenant-General Sir D. M.
Stewart, K.C.B., Commanding
Southern Afghanistan Field Force.

This question does not appear to apply to the force under my command.

Lieutenant-General C. T. Cham-
berlain, late Commanding Oudh
Division.

The main body of the troops quartered in Oudh are on the line of rail at Lucknow and Fyzabad.

If transport were available, the troops from Sitapur (50 miles) could rendezvous at Lucknow comfortably in three days. The Native infantry regiment at Goruckpore could reach Fyzabad in four days if the Gogra river were not in flood, or say five days, as the bridge of boats is not always opposite cantonments, and a long detour would have to be made to reach it in preference to risking more delays at a badly formed ferry, such as exists at Ajoodya.

Lieutenant-General W. T.
Hughes, C.B., Commanding Sirhind
Division.

The troops at Umballa and Jullunder (in the Sirhind Division) are on the line of railway. Those of the hill stations could all be concentrated at Umballa within five days (perhaps four days) of the date on which they are supplied with transport.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

Mhow and Nusseerabad, where the greater portions of the troops in the division are stationed, are both on a line of rail.

Neesmuckh will be within 30 miles of a railway by the end of the year. This line will soon run to Neesmuckh itself, and so on to Nusseerabad. Augur and Mehidpore are 40 and 24 miles respectively from a line of rail, and would take, the former three, the latter two, days to reach it.

Major-General J. Ross, C.B., Com-
manding Presidency District.

Depends upon the notice required by the Commissariat Department to provide the carriage.

If immediately available, the troops in the command could be despatched to the several railway stations as follows :—

From Fort William to Howrah in 4 hours

„ Alipore to ditto	5½ „
„ Dnn-Dum to ditto	6 „
„ Barrackpore to ditto	8 „
„ Berhampore to Azimgurh	7 „
„ Nay Doomka to Synthia	5 days.
„ Darjeeling to Silligori	5 „
„ Hazaribagh to Giridi	7 „
„ Dorunda to ditto	11 „

All the troops of this force are stationed at Secunderabad, where there is a railway station. No corps is more than three miles from a railway station.

The troops in the Poona division could be concentrated on the Great Indian Peninsula line of railway at ten days' notice.

In four days the whole division could be concentrated at Saharanpur, provided sufficient notice was given for collection of carriage and rolling-stock previously.

The point of concentration on a line of railway in the Sangor district would be Jubbulpore. The time of concentration must be calculated from the most distant station, *viz.*, seventeen marches without halt, to which must be added ten days for collection of transport. Twenty-seven days would therefore, "unless under circumstances of great emergency and forced marches," be the time required.

The stations of Surat, Baroda, Ahmedabad in the Northern Division, are actually on the line of railway. Deesa will be within 20 miles of the State line, passing Pahlunpur to Nusserabad, in November next. It may be said that the troops at these four stations can be concentrated at any given point at a very short notice. I apprehend that the regiment at Bhnj will sooner or later be withdrawn from that station, as being wholly unnecessary for the maintenance of order in Kutch. This would only leave the garrison at Rajkote to be considered. The troops are within 70 miles of the railway at Wadhwan, and could be concentrated with the rest of the division within a week.

A few hours might see the troops concentrated at Pahlunpur, 17 miles from Deesa, and at which place it is anticipated the railway will be opened to Bombay and Ajmere this cold season; but as carriage in addition to the field column carriage would be required, sufficient could not, even with the Political Agent's assistance, be obtained under ten days' notice at the soonest.

Brigadier-General J. W. Schneider,
O.B., Commanding Northern Division,
Ahmedabad.

Brigadier-General C. T. Aitchison,
C.B., Commanding Bombay District.

Brigadier-General F. G. Kempster,
Commanding Ceded Districts.

Brigadier-General J. I. Murray,
C.B., Commanding Mooltan Brigade.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Colonel J. A. Tytler, C.B., V.C.,
Commanding 4th Gurkhas, and
 lately Commanding a Brigade.

Colonel J. Macdonald, C.B., Secretary
to Government of Bombay,
Military Department.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

This question does not apply to the Bombay garrison I command.

The troops of this district under my command are concentrated in one station, and there is a railway on the spot, so that they could be got ready in a few hours, provided I had authority to draw at once the necessary equipments from the different departments.

As regards the Mooltan Brigade, in a few hours, the railway being in close proximity to the cantonments.

This question has been fully replied to by the Quarter-Master-General, and it is not therefore necessary for me to record the information here.

It would all depend, I should say, whether there was carriage ready for them and the distance they had to travel.

Accurate information will be given by the Quarter-Master-General.

I do not consider that the Khyber Brigade is stronger than is required to hold the pass, and therefore no troops could be spared from it.

9. With a view of carrying out decentralization as far as possible, and making the general officer responsible for everything which occurs within his command; do you consider it desirable that the several departmental officers should be placed directly under his orders, relative to the ordinary conduct of their duties, the departmental officers reporting to the heads of their departments as under present arrangements?

Lieutenant-General Sir D. M.
Stewart, K.C.B., Commanding
Southern Afghanistan Field Force.

The tendency in departments is no doubt to consider the officers serving in them as independent of general officers. If general officers

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Ordnance Division.

Lieutenant-General W. T. Hughes, C.B., Commanding Sirhind Division.

Lieutenant-General J. Forbes, Commanding Mhow Division.

Major-General J. Ross, C.B., Commanding Presidency District.

Major-General A. H. MacIntyre, C.B., Commanding Hyderabad Subsidary Force.

Major-General R. O. Bright, C.B., Commanding Meerut Division.

Major-General H. R. Browne, Commanding Saugor District.

Major-General J. W. Schneider, C.B., Commanding Northern Division, Ahmedabad.

Brigadier-General G. Burrows, Quarter-Master-General, Bombay Army.

Brigadier-General F. W. Jebb, Adjutant-General, Madras Army.

Brigadier-General H. H. A. Wool, C.B., Commanding Deesa Field Brigade.

Brigadier-General C. T. Aitchison, C.B., Commanding Bombay District.

Brigadier-General F. G. Kempster, C.B., Commanding Ceded Districts.

choose, however, to exercise their powers, I do not think the present system need be disturbed, at any rate in quarters. It is of course impossible to give general officers disbursing powers; but, short of this, their authority seems to me sufficient. On field service general officers are obviously invested with larger powers by the Government.

I do not see the need for any alteration of existing custom. To all intents and purposes a general officer has now quite as much control as is needed or as departmental rules (which are "under authority" always) permit. I have always found all departmental officers most anxious to conform to any wishes expressed, if not contrary to regulation.

A man can only have one real master—the head of his department.

It is most desirable that departmental officers should be directly under the orders of the officer commanding the division.

The heads of the commissariat and transport should be a part of the divisional staff, with executive officers and subordinates attached to brigades, regiments, and batteries.

I consider there should be a "chief of the staff" with army head-quarters, with whom general officers in command of an army-corps should communicate; that departmental officers should report only to the chief of the staff of the army-corps to which they are attached. General officers are too much at present but channels of communication, looking to presidency army head-quarters for guidance and orders on points which should be left to themselves to settle, referring almost every question, being either afraid of responsibility or not having the authority to deal with it.

This is very desirable.

All the departments are under me, reporting direct to the heads of the various departments.

Most decidedly.

Yes, I consider that many advantages would result from such a system. Time and much correspondence would be saved, and an infinite number of references to army head-quarters got rid of. It is only reasonable that such responsibilities should devolve upon the general officer in command. The departmental officers would still be his legitimate advisers, though receiving their orders from him.

Departmental officers like the assistant adjutant-general and the assistant quarter-master-general may be said to be already directly under the general officer's orders. It would, no doubt, be desirable that other departmental officers, such as the executive commissariat officer, the executive engineer, and ordnance and medical administrative officers, should be more immediately under his control, as in the German army; but this would, I conceive, involve a complete change in budget, audit and control arrangements.

I am certainly of opinion that a general officer should be held responsible for everything that occurs within his command; and this cannot be the case unless all executive officers are placed under his immediate orders.

I consider no departmental officer connected with a force under a general officer should be able to set the general's authority at defiance, even in departmental matters. Should such an officer be ordered to act contrary to departmental custom, he would represent the case to the head of the department; and he would judge whether it was a matter to bring to the notice of the Commander-in-Chief or Government to prevent a recurrence.

The departmental officers are, as far as my experience goes, already under the general officer as regards their ordinary duties, with the exception of the Public Works Department; and I recommend no change.

Most certainly; and as far as the Adjutant-General's and Quarter-Master-General's Departments are concerned, they do so in this presidency. Departmental officers should not report independently, and without the knowledge of their general, to the heads of their departments.

I do not allow it in my command.

I consider such an arrangement very desirable. It is obvious that immense delay would be saved if the general officer was empowered to sanction indentations at once without forwarding them to heads of

departments. The equipments and necessities required being authorized by regulation, I cannot perceive why the officer commanding should not be permitted to sanction the issue.

Yes; directly under his orders as executive officers.

The adoption of the system sketched out in this question is most desirable, and there appears to be no real difficulty in carrying it out. A similar principle should apply through all grades from the Commander-in-Chief, under whose orders should be the heads of the commissariat, medical, veterinary, ordnance, and transport departments, to the officer commanding a station, to whom the officials of these departments should be directly responsible for the ordinary conduct of their duties. In the case of the engineer department there appears to me to be an opening for an important improvement, carrying with it a large measure of decentralization, which in this department especially seems so urgently required. The measure I would propose is the appointment to the staff of the Commander-in-Chief and of the generals commanding corps, divisions and brigades, of an officer of engineers who would be the adviser of the general officer in all matters connected with the maintenance and repair, or even possibly the construction of military works and buildings, and the medium of communication between the general officers and the department of public works, which would, as at present, remain a civil department under the Supreme Government. Every year Government in the department of public works, having had before them the proposals made by general officers commanding corps and approved by the Commander-in-Chief, for the works to be carried on in their commands, would assign to each a certain sum of money, for the correct and economical disposal of which the engineer officer (who would have the necessary staff officers and subordinates) would be directly responsible to the department of public works. Under some such system, the elaboration of which does not appear difficult, the military works would be altogether separated from the civil, the decision as to the amount of money to be spent would, as now, rest with Government, the expenditure would be checked, as it is at present, by the Public Works Department, while general officers would be invested with a distinct power in connection with works in progress in their command, of which they now know nothing, and acquire therefrom an interest in this branch of the public service, which would doubtless be of the highest advantage to the State. In addition, the general officer would always have at his disposal the advice and skill of a trained engineer officer,—assistances which is now often needed and not always procurable. The officers of the Commissariat Department form part of the staff of the officer commanding a station, who can, under certain restrictions defined by Government, issue to them such orders as he may deem necessary. In connection with this department, the necessity is that the head of it should be under the Commander-in-Chief, who would however be required to obtain the sanction of Government before issuing orders productive of unauthorized expenditure. The Medical Department, as at present organized, presents innumerable anomalies. The dual system under which an officer in command of a station has to consult two medical officers in all matters connected with the troops, has nothing to recommend it and should be abolished. The direct subordination to Government of the surgeons-general of British troops, and their consequent independences of the Commanders-in-Chief, seems indefensible, especially in the minor presidencies, the Governments of which have practically no control over the British troops serving in their limits. There should be a distinct line of military medical supervision, the officers of which, from the surgeon-general downwards, should be attached to the staff of the general officers in command, and have no civil duties to perform.

I certainly consider that it would be far better to make the general officer responsible for everything that occurred under his command, and that departmental officers should be placed directly under his orders. This would enable him to act at once and on his own responsibility when any emergency occurred. The departmental officers might afterwards report to the heads of their departments.

Certainly; but the arrangement suggested is one that already exists and always has been in practice, save as regards the officers of the engineer department employed on public works, who are to some extent independent.

Certainly, I would place all, including commissariat, ordnance, medical and engineering staff, directly under the orders of the general commanding division or district. I see no objection to placing the heads of these several departments, with the exception of the Public

Brigadier-General J. I. Murray,
C.B., Commanding Mooltan Brigade.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Colonel J. A. Tyler, C.B., V.C.,
Commanding 4th Goorkhas, and
lately Commanding a Brigade.

Colonel H. K. Burne, C.B., Secretary
to Government of India, Military
Department.

Colonel J. Macdonald, C.B., Secretary
to Government of Bombay,
Military Department.

Works Department, completely under the orders of the Commander-in-Chief. And as nearly all the officers of the royal engineers serving in this country are employed under the Public Works Department, it would be necessary to place an experienced officer of the Engineers on the staff of the officer commanding the army-corps, in order that he might advise in respect to expenditure on military works, including quarters and communications, the requirements of the sapper corps, the pontoon train, and in connection with the defence of fortified positions, &c.

Colonel J. Michael, c.s.i., Secretary to Government of Madras, Military Department.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

No change seems required in the present relative positions of general officers and the departmental officers in their command. As far as I am aware, little friction has been felt in this presidency under existing arrangements.

Yes; I consider that the several departmental officers should be placed directly under the orders of the general officer relative to the ordinary conduct of their duties; but to make this work effectually, I think all general officers should have fuller powers than they now have within their commands; that increased sums of money for current expenditure should be at their disposal; and that they should be empowered to confirm proceedings of station boards, as also to sanction recommendations of commanding officers, not involving great expenditure, without reference to army head-quarters.

Much correspondence would be saved, such as the necessity of going to Government for a few horses to have a ration of dry grass issued to them, or to strike off stores which have been stolen or lost under exceptional circumstances, and many other minor matters too numerous to detail, and which I submit the Government of India should not be troubled with.

Colonel D. Standen, Assistant Adjutant-General, Burma Division.

I would not advocate any alteration in the prevailing system, which works well. Commissariat officers (for example) in charge of divisions and stations are already subject to the orders of the general or other officer commanding on all matters that are not of a purely departmental nature.

Lieutenant-Colonel H. A. Little, Officiating Deputy Assistant Quarter-Master-General.

The general officer should be the paramount authority in his command, and all departmental officers be part of the general staff of the command, just as the assistant adjutant-general or assistant quarter-master-general. No references to the heads of departments should be allowed except through the general commanding, and all discouraged except from him and at his initiation. General officers should be encouraged to dispose of all matters connected with their own commands and all under their orders made to realize that there should be no appeal beyond the general, except under the most exceptional circumstances. The executive commissariat officer should be the general's staff officer for supply and transport, so with the executive engineer, &c., &c. Now an executive commissariat officer or an executive engineer is required to comply with the wishes of the general officer so long as they are not at variance with departmental regulations. All officers in the command should be bound to obey the orders of the general officer, and he alone, as far as they are concerned, should be the interpreter of the regulations.

Major H. Collett, Assistant Quarter-Master-General.

Yes. I certainly think that departmental officers should be placed directly under the orders of general officers.

The present condition of our general officers commanding divisions and districts is quite lamentable: they are tied hand and foot, and if a general officer prefers it, he need never undertake greater responsibilities than those of a post office clerk. References to head-quarters are required on the most trivial subjects. If a privy is required for a barrack, the Commander-in-Chief must "approve" the site before the building is commenced. If a few regimental tents have to be pitched to relieve an overcrowded barrack, say at Peshawar, "permission" must be first sought from Simla. This was positively ordered in a Quarter-Master-General's circular issued two or three years ago. In fact, if a general prefers it, he personally need never incur any responsibility at all. This system must manifestly be wrong, and it will be a very great advantage to the army when general officers are permitted to command their own divisions. If this were accomplished, the establishments of staff officers and clerks at army head-quarters might be cut down to half their present number with a great gain to military efficiency, and to the comfort of the army. I have heard it said that general officers will not incur responsibility, and that it is not the Simla staff, but the general officers themselves, who cause centralization. I do not myself believe this; but if a general will not perform the duties of his post, he ought to be turned out. The remedy is simple enough. There are several members of the Commission who are no doubt fully aware of the petty and trivial character of a large proportion of the

army head-quarter correspondence. For those who are not, it would be very instructive if a file of "drafts" were called for. It seems to me that this state of things is mainly due to the desire to make the regulations of the army so minute and detailed as to provide for every case that can arise.

This is impossible : and so it comes to pass that, whenever anything occurs which has not been exactly foreseen by the compiler of the army regulations, a "reference" is forthwith made to head-quarters.

Now it seems to me that the proper system on which an army should be administered is for the regulations to be general and not too minute or particular, and for general officers to be required to interpret them according to the best of their judgment for the good of the service.

Absolute uniformity may perhaps have to be sacrificed, but the public will certainly be better and more cheaply served than under the present system.

Besides, uniformity is practically unattainable, and it is much better for the army to be governed by intelligent men than by unthinking machines, even though these latter may possess the advantage of having their motions directed from Simla.

Undoubtedly. It would save much delay, and facilitate business in every way. It is absurd that the general officer should not be able to order what he knows to be necessary without reference to the head of a department.

Major-General A. A. A. Kinloch,
Deputy Assistant Quarter-Master-
General.

10. Is there any object in the maintenance of three presidential armies; and could not the advantages now derived from the maintenance of such armies be obtained in a greater degree by substituting for these four or more army-corps, localized in such a manner as to secure the representation in the army of all the classes of which the present presidential armies are composed?

Lieutenant-General Sir D. M.
Stewart, K.C.B., Commanding
Southern Afghanistan Field Force.

I do not see that one of the alternative proposals contained in this question has any advantage over the other, as a matter of pure military efficiency. It is a mere matter of detail whether the forces in the different presidencies are commanded as they now are, or whether they are broken up into army-corps. Their fighting power will be very much the same in either case. Some economies might be obtained by the abolition of the Commanders-in-Chief of the different armies, and the substitution of commanders of army-corps, with staffs of inferior status; but I fear the formation of a centralized war department would swallow up most of the savings. I have not suggested the placing of the three armies under one Commander-in-Chief, because he could not well control them all on the present system; and if the duties now performed by the Commanders-in-Chief are delegated to corps commanders, the necessity for a Commander-in-Chief in India would not be apparent. There are, however, so many political questions involved in this measure, with which I have only a limited acquaintance, that I abstain from giving a decided opinion on it.

Lieutenant-General C. T. Cham-
berlain, C.S.I., late Commanding
Oudh Division.

This proposal accords very much with my view of the advisability of *localizing* the troops in such a manner as shall render speedy mobilization practicable.

Now that telegraphs and railways have secured such rapid means of communication and transport, I see no special reason for retaining the titles of three separate armies; but extended powers must be given to the commanders of army-corps.

Lieutenant-General W. T. Hughes,
C.B., Commanding Strind Division.

None whatever.

There should be four army-corps for the whole of India, lieutenant-generals' commands. These lieutenant-generals should report direct to the Commander-in-Chief. Native regiments should be class regiments, each recruited within certain territorial limits.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

I consider that army-corps, under one Commander-in-Chief, would be better than the three presidential armies.

Major-General J. Ross, C.B.,
Commanding Presidency District.

No; the substitution of four army-corps would be most advantageous.

Major-General A. H. Macintyre,
C.B., Commanding Hyderabad Sub-
sidiary Force.

I do not see what good would result from doing away with presidential armies, which system I consider to be by far the best.

Major-General R. O. Bright, C.B.,
Commanding Meerut Division.

Theoretically, doubtless, the formation of the whole Indian army into corps of amalgamated races appears the best, but practically, look-

ing at the great extent of country to be occupied, and the different customs of the men composing the several armies, I think the present system is the most convenient.

Major-General J. W. Schneider,
C.B., Commanding Northern Division, Ahmedabad.

In my judgment, the great sub-divisions of the presidential armies of India cannot be too rigidly maintained as a check one against the other. It is already found difficult to recruit the ranks of the Native infantry with sepoy of the old stamp and physique, and this difficulty would be greatly increased if recruiting were required for general service in India. The Bombay sepoy is of very domestic habits, and the lines are full of families—the best guarantee for his loyalty and good conduct. To be liable to be sent to very distant points in India for ordinary garrison duty would assuredly make the service most distasteful to the sepoy. It would, in fact, be foreign service when it is remembered that some fifty dialects are spoken in India.

Brigadier-General G. Burrows,
Quarter-Master-General, Bombay Army.

I consider that the maintenance of the three presidential armies is essential to the safety of the Indian Empire; and I do not see how the advantages now derived from their maintenance could be obtained in a greater degree by the substitution of army-corps.

Any measure which now or hereafter might tend to lessen the distinctive character of the three presidential armies is most strongly to be deprecated.

As they now exist, the numbers are sufficiently near to give the desired equilibrium: for, although Bengal has a Native army largely in excess of Madras and Bombay, it is composed of so many distinct nationalities, that a combination of the whole can never occur.

At present a limited number of Hindustan and Punjab men are permitted to enlist in the Bombay Army. This is of doubtful advantage; and I think it would be advisable to restrict recruiting to the territorial limits of each presidency.

Brigadier-General H. H. A. Wood,
C.B., Commanding Deesa Field Brigade.

The maintenance of the three presidential armies admits of independent action and decentralization, and is therefore most desirable.

Brigadier-General C. T. Ditchison,
C.B., Commanding Bombay District.

I am a strong advocate for the maintenance of the three presidential armies distinct as now. Politically it is our best safeguard.

A localized army-corps, representing all classes and castes as proposed, would not in my opinion be nearly so good.

Brigadier-General F. G. Kempe,
C.B., Commanding Ceded Districts.

The great object is, I presume, on political grounds, thereby holding one against the other in case of necessity. Any one being in India in 1857 could perceive the advantage of the three armies being distinct. I can see no objection to four or more armies replacing these three, so long as the representatives of all the classes of which the present armies are composed are maintained. The less the three are amalgamated, the greater the security in my opinion.

Brigadier-General J. I. Murray,
C.B., Commanding Mooltan Brigade.

The introduction of railways and telegraphs has, in my opinion, removed the only objections, and I am in favor of the substitution of army-corps under the Commander-in-Chief.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

This question involves issues of the greatest moment, demanding the most careful consideration. It appears to me to be of vital importance to the safety of the Empire that we should maintain and encourage the distinction of race, feelings, and habits, which have heretofore kept the various great sections of the people of this country from coalescing, and becoming a homogenous race, to whom national feeling and national cohesion would be natural and possible. Our successes and our safety have been owing as much to the absence of any national feeling among the people of India, as to our arms, or the superior quality of our race. By sheer force of numbers the people could have rendered our rule impossible were they able to find any common ground on which they could meet and agree. In our interests, and in theirs, it is therefore necessary to maintain the distinctions which make such a union impossible. And it is in the highest degree important that this principle should be applied to the organization of the Native army. Although it is admitted that certain classes produce better fighting material than others, the strongest opposition should be offered to any one class, no matter how good its fighting qualities, being allowed to obtain too great a preponderance or power. I am aware that it is argued—and the argument has the appearance of soundness—that it is useless to enlist as soldiers those who are not by tradition, or physique, fighting men. Were the Indian army intended only for service out of India, this argument would be unanswerable, but it loses all its force when the peculiar position of the Indian army—an army of mercenaries holding its own country against the invaders—is considered. I reply then to those who use this argument, that the men to whom they refer, though not equal in the first instance to the more distinctly warlike classes, such as the Sikh, the Pathan, the Mahratta, the Rajpoot, or the Goor-

kha, are by no means so despicable as is supposed, and that if well selected and well commanded, they can be made efficient soldiers, very fit, when led by British officers, to meet on more than an equality the more warlike races who, when in opposition to us, would have lost the directing influence of their English leaders. It is necessary, moreover, that employment should be found for men of these classes who would otherwise be the nucleus of bands of discontented wanderers open to the offers and the seducements of the many seditious characters who must necessarily be found in this vast country. Again, these despised classes give in their less warlike spirit an assurance of a greater fidelity, and yield a more ready and willing obedience to the demands of discipline. I have included in the list of the more warlike tribes the Mahratta of Western India, because I feel assured there lingers still among this race the traditions of bygone greatness, and that it would be a grave political error to close to such a numerous and dangerous class the entrance to military service, where the inclination and power for evil is reduced to a minimum, while previous history has shown that, when disciplined and well commanded, the Mahratta soldier is fitted to compete in war with the soldier from any part of India. From the above I arrive at the conclusions—

- (1) that every race willing to take service in India should not only be permitted but encouraged to enlist;
- (2) that no class or caste should be allowed to obtain an undue preponderance in the army.

These principles being accepted and borne in mind, the territorial divisions of the army of India do not appear to me to be of first importance. The fact that service at a long distance from his native place is distasteful to the Indian soldier, and that a system of general reliefs extending from the North to the South of India would involve serious expense, leads to the natural arrangement which gives a description of partial localization to the various sections of the army in the country in which they are enlisted. This seems not only unobjectionable but desirable, as tending to render the sepoys more contented, and at the same time to foster the distinctions and differences happily existing between the various classes of the inhabitants of India. In former days, when communications were bad or non-existent, it naturally occurred that these armies utilized in the district in which they were enlisted should receive a distinct organization and assume the form of separate armies. Now that railroads and telegraph lines connect the most distant parts of India, the reason for the maintenance of this form of administration disappears, and there remain the following objections to the change:—

1st.—The necessity for preserving a distinction between the armies.

2nd.—The danger of overcentralization.

3rd.—The impossibility of one man exercising an efficient control over an army spread over so great an extent of country.

The gravity of the first objection cannot be overestimated, and if the abolition of the presidential armies would necessarily have the effect of breaking down the marked line which now separates the native element of each, I think the alteration would be most dangerous to the safety of the Empire, and therefore to be earnestly deprecated. But there appears no reason why the present distinction and difference of race and feeling should not be preserved equally well under such a system as that indicated in the question, as under existing arrangements. The remaining two objections can without difficulty be overcome by according to the general officers commanding corps the fullest powers consistent with a due subordination to the supreme head of the army. There is however one condition which must be accepted if the amalgamation of all the military forces in India is to be a success, and carried out in the interests, and with a view to the well-being, of all portions of the army alike, and that is that the Commander-in-Chief in India must not be connected with any of the corps, and his staff must be filled by officers from all the various armies. No arrangement under which the Commander-in-Chief of the whole army was required also to exercise the immediate command of one of the army-corps could be expected to work for the good of the whole, or give satisfaction to all. With this proviso the change would, I believe, not only be advantageous to the State, but also beneficial to the armies of the minor presidencies, whose quasi-independent state gives them no real independence, while their nominal separation deprives them of an equal share in the care and consideration of the Supreme Government. To the existing arrangements I ascribe in a great measure the fact of the supposed superiority of the Bengal over the other armies, as for years the latter have been relegated almost to the position of local police, without hopes of distinction or of employment on active service. Had this treatment led to a deterioration in the armies of Madras and Bombay, it could hardly have been held a surprising result; but speaking for the Bombay army, having had a not inconsiderable experience of that of Bengal, whose

high efficiency I most readily acknowledge, I would assert that the Native troops of this presidency are capable and ready now, as ever, to give a quality of service equal to that within the possibilities of any body of soldiers under the Indian Government. Although I believe that a scheme which, while preserving the distinct local character of the various sections, would, for administrative purposes, weld the whole of the military forces in India, including those under the direct control of the Supreme Government, into one grand army, is possible and desirable, I do not anticipate that any financial saving would result from its adoption, but I would advocate the change in the interests of all, but more especially of those of the minor armies which, brought under the Commander-in-Chief in India, might look forward to sharing equally the opportunities of active service against the enemy as they occur.

I should think that four or more army-corps, localized as proposed, would be better than the present system of three presidential armies.

Colonel J. A. Tytler, C.B., V.C.,
Commanding 4th Gorkhas, and
lately Commanding a Brigade.

Colonel H. K. Burne, C.B., Secretary
to the Government of India,
Military Department.

I attach great importance to the entire separation of the three presidential armies as at present.

The advantages of such distinction, especially in the case of the Madras army, were patent in the mutiny, and it has always been a cause of regret to me that it has been necessary, unavoidably so no doubt, to bring so many of the troops of that presidency into Bengal provinces.

It is to them foreign service. It entails great increase of expense in the shape of extra batta, and special family allowances, or the alternative heavy cost of moving and housing the numerous families and establishments that are generally attached to a Madras regiment.

It brings them into contact with different races and nationalities, and tends to break down the barriers hitherto so advantageously maintained.

It cannot be conducive to the public interests that Madras troops serving at Calcutta, Alipore, or elsewhere should be in receipt of extra pay (batta), and special allowances given to their families, while Bengal troops serving alongside or at adjacent stations are on ordinary cantonment allowances.

I think that by some redistribution of stations between the Madras and Bombay armies it might be possible to keep the troops of the Madras army more strictly within their own presidency and south of the Nerbudda, and so save the heavy cost entailed by bringing them into our provinces north of that line of demarcation.

So far from any change being carried out with the advantages suggested in the question, I believe it would have a contrary effect, and would open the way to interchange of thought and feeling which would be very prejudicial to the interests of the Empire.

Any change in the direction indicated would necessarily lead to an extinction of the status of the Madras and Bombay armies, and to a gradual fusion which is much to be deprecated.

It might be possible to divide the large army of Bengal into two separate corps, so as to maintain a barrier as far as possible between Sikhs and Hindustanis, and such a measure would lessen the present difficulties of relieving troops of the Bengal army.

It is impossible to keep Punjabis for lengthened periods in Lower Bengal, or Hindustanis in the Northern Provinces. This necessitates frequent reliefs at a heavy cost.

From the general way in which only I have been able to look into the question of the amalgamation, or rather change of organization, of the separate armies and their staff, I believe there is a very exaggerated impression as to the economy which would result from such a measure.

Colonel J. Macdonald, C.M., Secretary
to Government of Bombay,
Military Department.

I think that there are objections to retaining three presidential armies. First, because they necessitate a large and expensive administrative staff, which might be reduced if the Native army was placed under different organization. Secondly, while the armies are presidential, the local Governments are regarded as being to some extent responsible for their condition. Consequently, reference and applications are made to the local Governments, which, with few exceptions, have eventually to be dealt with by the Government of India. Thirdly, the existence of separate armies gives rise to different systems and practice in matters of detail, which are embarrassing when the troops are employed beyond their own presidential limits. Fourthly, under the existing system the troops of all three presidencies do not enjoy an equal amount of benefit from their connection with the Supreme Government. The army of Bengal being directly administered by the Commander-in-Chief in India, under the immediate orders of the Government of India, is in a more favorable position than the armies of the sister presidencies. This should not be. The armies of the three presidencies should be governed by the Supreme Government and by that Government only. This could be more conveniently done by having (as stated before) but one army, formed into a certain number of army-

corps, and placed under one-Commander-in-Chief, who should be unconnected with any of the corps.

Much is said in different quarters about the political necessity for having three separate armies. The political side of the question I understand to be this, that every advantage should be taken of the fact that the population of India is made up of an aggregation of several races and castes, having their several different social and religious peculiarities, and tribal animosities. As these elements of antagonism strengthen our hold on the country, we should abstain from doing anything to alter these conditions, and to create a national feeling amongst the different races, so as to induce them to coalesce. In altering the existing military system, I see no necessity for neglecting the conditions above described.

Having ascertained what is the number of Native troops actually needed for all India, that number should represent the strength of the future Native army. It should then be divided into a certain number of army-corps with a proportion of British troops attached to each. And each army-corps should have a certain amount of territory to hold. The Native troops belonging to the several army-corps would ordinarily serve within the limits of their provinces, but would be liable to serve beyond those limits in case of war and when ordered to take their tour of duty on the frontiers.

The army-corps having been told off, the whole should be placed under a Commander-in-Chief, who, assisted by a staff taken from the service generally, and not from any particular corps or province, should, under the orders of the Government of India, carry out the administration of the army as a whole: constantly touring from one province to another, and seeing for himself the actual condition of the troops. Under this arrangement we should attain the use of a more simple and less costly machinery for administrative purposes.

Colonel J. Michael, C.S.I., Secretary to the Government of Madras, Military Department

In my opinion the maintenance of three distinct presidential armies is advisable on military and political considerations. The control of the whole army in India scattered over so vast an area is probably too much for one Commander-in-Chief, even though he may have served in all three presidencies and have thus become partially acquainted with all the varied rights, privileges, customs, and traditions of the three armies. If, however, it be determined to have three or four army-corps under one Commander-in-Chief, it will certainly be necessary to give the general officers commanding such corps more extended powers than divisional officers possess. Politically, I think that the present distinctiveness of the three armies, and the entire absence of social bond between them, would be one of our greatest elements of safety in the event of internal revolt or attempt at intrigue by a hostile foreign power.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

I see no reason for the maintenance of three presidential armies, but I do not think less than five army-corps will be found to meet the requirements of India.

Colonel D. Standen, Assistant Adjutant-General, Burma Division.

I consider the maintenance of three distinct presidential armies to be a matter of great, if not of vital, importance.

Taking into consideration the very many points of difference as regards constitution and composition between the existing three armies with all their heterogeneous elements of class and caste, and concomitant prejudices, it would, I think, be very undesirable, if not hazardous, to make any change in this respect. Contemplating the immense extent of country in which the troops of the three armies are cantoned, and in many instances the great intervening distances between military stations, it would be a matter of difficulty and obvious inconvenience, in spite of the improved means of communication existing, to exercise efficient control over all from the head-quarters of one sole and undivided "army of India" located at Simla.

I cannot think that the advantages now derived from the maintenance of three separate armies could be obtained in even an equal degree by the substitution for these of three or more army-corps, even if these army-corps were so localized as to secure the representation of all the classes of which the present three armies are composed. The salutary *local control* over each separate army, under a system which, with its attendant special knowledge and valuable and varied experience possessed by the directing authorities, has for so long a period proved satisfactory, would still be wanting.

In fact, an innovation of the kind suggested might be liable to much misconstruction; and to have a disturbing, not to say injurious, effect on the minds of many portions of the Native soldiery, prone as sepoys always are to cling persistently to old local traditions, and always averse to radical changes affecting in any way their local and class prejudices.

Better, possibly, the total abolition of the Madras or coast army than the entire extinction of its separate and individual existence.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant Quar-
ter-Master-General.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

Captain M. J. King-Harman,
Deputy Assistant Quarter-Master-
General.

Every consideration of efficiency and economy points to the abolition of the obsolete division of the Indian armies by presidencies. It is an anachronism, which would be fitly replaced by more modern machinery.

As far as I can see, there are great objections to the maintenance of three presidential armies, with an extensive staff and establishments, and with different regulations, causing considerable trouble when troops belonging to the different presidencies happen to be brought together on service.

The substitution of about five army-corps, localized as might be most convenient, with one set of regulations applicable to all, would be a very great improvement.

It matters little whether they are called presidency armies or army-corps, so long as each army, under command of a lieutenant-general, is more or less localized, and kept in such a state of readiness for active service, that the more northerly army or armies (if the Punjab and Sind frontiers are to draw from separate bases) are always fit in every way for an immediate advance, and that those in rear are ready to be moved up with little delay to take their places, either by regiments, brigades, or divisions, &c., and so on.

11. If presidential armies are retained, should the troops of these armies serve, as a rule, in their own presidencies, except when called out for war; or should they take a share of frontier and other general duty?

Lieutenant-General Sir D. M.
Stewart, K.C.B., Commanding
Southern Afghanistan Field Force.

In any case I think the armies should, as a rule, serve only in their own presidencies in time of peace. But all should be required to serve in districts which do not furnish recruits for the army. That is to say, all the presidencies should take a tour of service in Burma, Aden, and the Andamans. This would habituate all to service across seas—a very desirable object.

Lieutenant-General C. T. Cham-
berlain, C.S.I., late Commanding
Oudh Division.

If retained as presidential armies, they should, as a rule, serve in their own presidencies.

Natives generally are more willing to accept service near their homes on a small salary than at a distance therefrom on superior pay.

Bengalis, *i.e.*, from the country north of Bengal, take service in the Deccan, in the Bombay presidency, and in Sind freely, as also in the Native States; but Madras and Bombay presidency men do not come to the North-West, and I believe that the climate has a great deal to say to their dislike of doing so.

The physique of the different races (especially of the tropical portion of India) is suitable to special localities; and their language and their religions adapt them to home service.

The cold of the North-West is hateful to the men of the South; and rice-eating communities suffer as much from eating atta as the latter consumers do from a diet of rice.

To circumscribed minds 200 or 300 miles is an immense distance; and I have no doubt but that the men of the coast army regard Jubbulpore and Saugor as their penal settlements. If sent to the Punjab, and especially if sent to the frontier stations, I am sure consternation would arise in their minds; for it would be needful to separate the men from their families for a long period. Moreover, the distances to which sick and furlough men are subject, even now, are already great and more costly than can well be afforded. If extended almost indefinitely, leave would be prohibitive! And the State would be subjected to considerably increased charges for those entitled to free passage under any regulations in force.

The general good-feeling which obtains throughout all regiments for service anywhere and everywhere is a guarantee for the State employment of them where necessity arises; but I think it advisable for many reasons, policy being one and an important one, not to throw men of different ideas and localities too much together.

I believe, moreover, that it would be very expensive to employ Madras regiments in Upper India, as the compensation calculated upon the price of rice is something considerable even in Central India, and would increase more in a country where that article is not the staple food of the mass, as it is in Madras.

I believe these views are equally applicable to the men of the Bombay army.

I do not think that presidential armies should be retained. In times of peace, and so far as the exigencies of the service will permit, our class

Lieutenant-General W. T. Hughes,
C.B., Commanding Straits Division.

Lieutenant-General J. Forbes,
Commanding Mhow Division.

Major-General J. Ross, O.B.,
Commanding Presidency District.

Major-General A. H. Macintyre,
O.B., Commanding Hyderabad Sub-
sidiary Force.

Major-General R.O. Bright, O.B.,
Commanding Meerut Division.

Major-General J. W. Schneider,
O.B., Commanding Northern Divi-
sion, Ahmedabad.

Brigadier-General G. Burrows,
Quarter-Master-General, Bombay
Army.

Brigadier-General H. H. A. Wood,
O.B., Commanding Deesa Field
Brigade.

Brigadier-General C. T. Aitchison,
O.B., Commanding Bombay Dis-
trict.

Brigadier-General F. G. Kempster,
Commanding Ceded Districts.

Brigadier-General J. I. Murray,
Mooltan Brigade.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Colonel J. A. Tytler, O.B., V.O.,
Commanding 4th Goorkhas, and
lately Commanding a Brigade.

regiments should be ordinarily located in the provinces from which they are recruited. But all should take their turn at frontier and general duty. Every Native soldier should be enlisted for service in any part of the world; and in war time Native regiments should be freely used abroad.

I would recruit for general service, but would localize with reference to the food the different classes subsist on. I would not, except in war, require a rice-eating people to serve in a country where none is produced. Compensation for rice where none is grown must entail a heavy charge on the State.

All should be treated as one army.

I consider that the troops of the three presidential armies should serve, as a rule, in their own presidencies. Southern troops are not adapted for serving in cold climates, and *vice versa*.

I have no experience of the Bombay army, except that they have their own frontier to defend. I know Madras troops, and it would doubtless be more beneficial to them to be brigaded with other troops; but the conditions of their engagements to serve would render this a very expensive arrangement. The compensation they receive for dearth of rice is very large, and the enormous families they are allowed to carry about with them makes their movements very expensive.

This question is answered by the preceding one. Sepoys of the Bombay army should, of course, take a share in duty on territory recognized as the frontier of this presidency. In time of war, the Native soldier is required to go wherever he is ordered; and Bombay troops have always responded promptly to the call for foreign service.

The presidential armies should, as a rule, serve in their own presidencies, except when called out for war.

The presidential armies should serve, as a rule, in their own presidencies, except when called out for war, and should be kept as distinct as possible.

I think they should serve, as a rule, in their own presidencies, taking a share of frontier duties, which is the best school for both officers and men. When called out for war or an emergency, they should be sent anywhere. Bombay troops are prepared to do so now.

As a rule, I imagine it is more economical to keep troops to their own presidency. It would be expensive to send Madras regiments (rice-eating) to serve in Punjab, and to send Bengal regiments (flour-eating) to serve in Trichinopoly.

As a rule, in their own presidencies, except when required for war or other special duty.

Whether the presidential armies are retained or not, the troops of each army or corps, as it may hereafter be designated, should, as a rule, serve in their own division of the country, and should not, I think, be employed on *general duty* in the other parts of India. The unpopularity of removing the men long distances from their homes, the advantage of maintaining the existing ignorance of other parts of India which is now found in the various sections of the army, and the cost of the reliefs, seem sufficient reasons to urge in support of this view. Equally, however, whether the military forces are organized in separate armies or in corps, it is of great importance with regard to their efficiency, the cultivation of *esprit*, and their instruction in the art of war, that each territorial division should always furnish its quota for service on the frontier. These troops, when so employed, would be under the control of the general officer commanding the northern corps or the frontier division, and would be periodically relieved by regiments from their own army or corps. It may be urged that serious expense would be incurred if regiments were sent from Madras to the north-western frontier; and this no doubt is true. But the cost of these moves would represent a value in the efficiency of that army which cannot be over-estimated. The troops of all armies or corps should, of course, be available for active service in any part of India or of the world.

If retained, they should serve, as a rule, in their own presidencies. I doubt if the Madras and a large portion of the Bombay troops could stand the climate of the Punjab and north-west frontier; nor could the Goorkhas, Sikhs, and Pathans stand that of Madras and some parts of Bombay. In time of war I would employ them all wherever required.

Colonel H. K. Barne, C.B., Secretary to Government of India, Military Department.

They should, as a rule, serve strictly within the limits of their own presidencies, unless called out for war, and should not take any share of general duty.

Under existing arrangements, Burma is to Madras troops what the frontier duties of the north-western and south-eastern frontier and Sind and Southern Afghanistan are to Bengal and Bombay troops.

Colonel J. Macdonald, C.B., Secretary to Government of Bombay, Military Department.

Under any arrangement, whether as belonging to presidential armies or to the army of India divided into army-corps, the troops should serve in garrisons within the limits of their respective commands or districts, unless necessitated by war to serve elsewhere. Frontier duty should be shared by all.

Colonel J. Michael, C.B., Secretary to Government of Madras, Military Department.

I believe it to be most desirable that the service of each army be, as much as possible, restricted to the limits of its own presidency. When troops of the different armies come together in time of war, it is no doubt beneficial, emulation is excited, and the novelty of the thing is enjoyed, but, speaking on behalf of the Madras army, I am sure that it is distasteful to the sepoy to be called upon to serve in garrison far from home associations and as a foreigner. I venture to say that the distaste would be equally felt by a Sikh or a Goorkha regiment called on to serve a three-years' tour in one of our southern or western coast stations. I doubt, moreover, the political advisability of breaking down any of the social barriers which exist between the presidential armies. If a third of the Madras and Bombay armies had been serving in the north, and a third of the Bengal army in the south, prior to 1857, might not reciprocal ties have been found to exist between them; and who shall say that Southern India would not have been drawn into the net? Some may say the mutiny would not then have occurred, or that such a thing is no longer possible: but who can tell? In 1856 many officers of judgment and experience, who were doomed to fall by the hands of their own men in 1857, would have ridiculed the idea of a general mutiny.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

I would, as far as circumstances permit of it, keep the troops of the different presidencies to their own presidencies, excepting of course when called out for war; and I would not make it a fixed rule that they should take a share of frontier and other general duty.

Colonel D. Standen, Assistant Adjutant-General, Burma Division.

I am of opinion that presidential armies should, as a general rule, serve only in their own presidencies, except for very special reasons, such as to take the place of troops of other presidencies ordered to a frontier, or when called out for war.

Lieutenant-Colonel H. A. Little, Officiating Deputy Assistant Quarter-Master-General.

They should take their share of frontier and general duty, as thus they would have an opportunity of comparing themselves with other troops and finding out their deficiencies. Families should not be allowed with Native regiments.

Major A. A. A. Kinloch, Deputy Assistant Quarter-Master-General.

Under existing circumstances, I do not think it advisable that troops should, as a rule, serve out of their own presidencies. It causes considerable confusion, and prevents general officers from having the undivided authority which they ought to possess, questions having constantly to be referred to the presidency to which a regiment belongs.

Captain M. J. King-Harman, Deputy Assistant Quarter-Master-General.

What is needed is to draw up a simple, but definite, scheme showing what regiments (if local) and stations compose the different brigades of the different divisions of each army-corps, and by whom to be commanded, at the same time providing for a regular relief, subject of course to alteration in cases of special emergency. So that on the order being given to advance and mobilize, say, the northern or first army-corps at certain points, it would be known at once what would be the destination of the troops further south, and so on.

All regiments and batteries composing each army-corps should be kept within the circle of that command, and not moved out of it, unless for some very special reasons; and for this reason of course all regiments composed chiefly of Sikhs, Dogras, Punjabis, &c., would be kept almost entirely either in the Punjab or in the upper portion of the North-Western Provinces; Goorkhas and local regiments, Central India Horse, &c., being located as at present, but being told off to brigades, the same as the others. Owing to the extension of the railways, this is now feasible, without causing any delay. So with Bombay and Madras. All this is a matter of detail, easily worked out, if arranged methodically; the chief question being whether the northern frontier is to be under one army-corps occupying a long line of frontier, or whether it is to be under two distinct corps, one drawing from the Punjab downwards, and the other drawing from Sind and Bombay downwards. The latter would of course be the simplest and most easily worked.

Moreover, the different elements of which the present presidential armies are composed should be kept with their own armies as much as

possible; and the same rule should apply to the army-corps, which should each enlist as much as possible within its own province or command; and the ruling of Government prohibiting the enlistment of Goorkhas into any but certain named regiments should be most strictly enforced.

In a similar way schemes should be drawn up, laying down exactly what stations should furnish troops in case of a war with Burma or China, or a force being required to land on the Persian coast, &c.; and what troops would support or relieve them.

The whole army in India to be under supreme command of one general, "the Commander-in-Chief in India," who would also be the Military Member of Council, with one Quarter-Master-General and one Adjutant-General: the senior in each of these departments to hold the rank and receive the pay of deputies.

All troops in India, Burma, &c., to be under the *sole* control of the "Commander-in-Chief."

12. Is there any reason why troops of all the three armies should not serve in Burma?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding South-eastern Afghanistan Field Force.

I see no reason against their doing so. On the contrary, I think they should be required to serve there in turn. Pathans and Sikhs would not like the climate; but men of these nationalities have served there before, and a tour of duty in that province would not come round to a soldier more than once in his period of service.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Oudh Division.

My reply to question No. 11 has somewhat answered this; but I may add that as Calcutta, Barrackpore, and the south-eastern frontier stations [are much disliked by up-country Natives on account of the climate and change of diet, they would detest Burma, which is far more damp, is only reached by the sea, is at the antipodes from their homes, and has no redeeming features.

Fever, spleen, and other illnesses would certainly arise from the changes to which their constitutions would be subject; and as the Madras soldiers are rice-eating men, inured to damp heat, they are every way more fitted for garrisoning the stations in that province than Bengal troops.

I cannot say about the Bombay army; but it would be expensive to employ them.

Lieutenant-General W. T. Hughes, C.B., Commanding Sirhind Division.

I know of none.

Lieutenant-General J. Forbes, Commanding Mhow Division.

It would be better that regiments recruited on or near the coast or in the south should serve in Burma.

Major-General J. Ross, C.B., Commanding Presidency District.

I can see no reason.

Major-General A. H. Macintyre, C.B., Commanding Hyderabad Subsidiary Force.

No reason. I consider the troops of all presidencies should serve in Burma.

Major-General R. O. Bright, C.B., Commanding Meerut Division.

I know no reason against it; but the Madras troops being in a great measure quartered on the seaboard, and Burma being a rice-producing country, it has been found convenient to find the troops from that army.

Major-General J. W. Schneider, C.B., Commanding Northern Division, Ahmedabad.

I can see no reason why troops of the three armies should not serve in Burma. The Bombay sepoy goes cheerfully to Aden: he would go equally gladly to Burma, with the usual advantages, *viz.*, free rations, half-batta, and the grant of warm underclothing or compensation, if such should be considered necessary, in lieu thereof. From an experience of five years' command in Aden, I would advise that only a very limited number of families, if any, should be allowed to accompany regiments proceeding to Burma. The service should never extend over two years.

Brigadier-General G. Burrows, Quarter-Master-General, Bombay Army.

There is no reason why Bombay troops should not serve in Burma, except the expense of transporting them thither.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

There is no reason, as far as I am aware, why the troops of all the three armies should not serve in Burma, provided they are kept distinct.

Brigadier-General C. T. Alchison, C.B., Commanding Bombay District.

None whatever. All troops should be compelled to serve wherever their services may be urgently required.

Brigadier-General F. G. Kempster, Commanding Ceded Districts.

I know of no reason why they should not, except Bombay is rather distant from Burma. The Bengal troops served in Burma before the mutiny, and I do not know why they should not take a tour again.

Brigadier-General J. I. Murray,
Mooltan Brigade.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Colonel J. A. Tytler, C.B., F.C.,
Commanding 4th Goorkhas, and
 lately Commanding a Brigade.

Colonel H. K. Burne, C.B.,
Secretary to Government of India,
Military Department.

Colonel J. Macdonald, C.B.,
Secretary to Government of Bom-
bay, Military Department.

Colonel J. Michael, C.S.I., Secre-
tary to Government of Madras,
Military Department.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

Colonel D. Standen, Assistant
Adjutant-General, Burma Division.

Lieutenant-Colonel H. A. Little,
Retiring Deputy Assistant Quar-
ter-Master-General.

Major A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

Yes; climate and food are especially adapted to the Madras sepoys, and altogether unsuited to North-West and Punjab men. I cannot speak so confidently regarding the Bombay army.

Beyond the reasons given in the reply to the previous question against the employment in peace time of troops beyond the limits of their own presidencies, I can see no objection to troops of all armies serving in Burma. As, however, there would be no special advantage in efficiency or military education to be obtained from service in Burma in peace time, there appears no more reason for troops from the Punjab, Central India, or Bombay to go to Burma than there would be for troops from Bengal to be sent to Aden.

None, except the climate, which I am afraid that the three nationalities abovementioned would not stand for long, though they would do so no doubt for perhaps a year or so.

For reasons already given, I would deprecate any mixture of the garrison serving in Burma.

If it is intended by the question whether Burma might not be garrisoned by troops of *either* presidency, I should say there is not; and it would be an advantage, financially, if Bengal troops could be sent, as it would not be necessary to continue the system under which it is considered foreign service to Madras troops.

But neither the Bengal nor Bombay armies could, at their present strength, provide for the occupation of British Burma, while such distant service would be in a measure distasteful and call for frequent reliefs.

None, except on the score of expense. Unless for field service, the sending of troops to Burma from distant parts of India would only cause much expenditure, without ensuring any important professional results.

I know of no valid reason why troops of the three armies should not serve in Burma; but I would say, let well alone; and leave the garrison of Burma to be taken by the Madras army, who have become accustomed to take their tour of service there as a matter of course, and who, on the whole, do not dislike it.

I think if the troops of the three armies were called upon in peace time to serve in Burma, it might affect prejudicially enlistment in some parts of India.

I see no reason whatever why the troops of all three armies should not serve in Burma, nor why in particular the Bengal army should not furnish the troops for the garrison of the province, all Bengal regiments being liable to be sent on foreign service beyond sea, or to any territories under the Indian Government. The fact of the administration of British Burma being carried on solely in connection with the Government of India is in itself an especial argument in favor of the troops in the province being taken from the Bengal rather than from the Madras army.

It was formerly a strong argument in favor of the exclusive employment of Madras troops in Burma that men who live on wheaten cakes were not so readily and economically supplied with rations as men who live on rice; and in 1861 it was shown, when this point was mooted, that the cost of feeding Bengal troops was more than double that of Madras troops. In that year the cost of rationing one Bengal sepoy for a period of thirty days was Rs. 7-14-9, whereas for a Madras sepoy it was only Rs. 3-14 for the same period.

According, however, to the rates now prevailing, the cost for a Bengal sepoy would be Rs. 6-10-6, for a Madras sepoy it is Rs. 5-8-4, for a month of thirty days.

The difference of cost, therefore, in favor of the Madras sepoy has been greatly lessened; and provided there is no interruption to the wheat trade with Upper Burma, stated to be increasing each year, upwards of 56,000 maunds of wheat having been imported to Rangoon by the Irrawaddy route from Upper Burma in 1877-78, this difference of cost will in all probability be still further reduced.

I can conceive no reason why they should not serve in Burma, as they have served in China, in Malta, and in Cyprus.

I know of none; but imagine that it would be undesirable to keep men, accustomed to a dry climate like the Punjab, too long in a damp climate.

13. (a) Does the organization of the Commissariat Department meet the requirements of war?

(b) And if not, in what way can it be improved without adding to its cost?

Lieutenant-General Sir D. M. Stewart, K.O.B., Commanding Southern Afghanistan Field Force.

I have nothing to add to the answer given to question 3.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Oudh Division.

(a) I know nothing about its organization; but I think that the fact of the Khyber and Kuram columns having always been well supplied, and that large quantities of stores (some 30,000 maunds of grain food) were given to the Amir Yakub Khan at Gandamak when the army retraced its steps, establishes a claim in favor of the commissariat department, whose chief difficulties were the want of transport.

They nevertheless organized a train of carts (some 1,200) to Jellalabad.

The immense losses in camels doubtlessly crippled operations considerably; but in this, as in former wars, the troops of the Indian armies have never had to complain of want as others have, and I believe never will.

(b) I believe improvements to be impracticable without additional cost; but the officers of the department, and the general officers who have commanded columns, will speak with far more weight than I can.

Lieutenant-General W. T. Hughes, C.B., Commanding Sirhind Division.

The commissariat (supply) department should be distinct from that of the transport. Thus the efficiency of both departments would be increased; and both should be attached to the division, and be under the orders of the general officer in command.

Lieutenant-General J. Forbes, Commanding Ahow Division.

By a lavish expenditure, the commissariat department, when a reasonable time is given to prepare, meets the requirements of war; and considering that most of our Indian wars are carried on in countries yielding but little towards the requirements of a British army, it has often struck me as surprising how well this duty is performed. It would be better, I think, if it was fully understood that neither beer nor spirits were to be allowed the troops on service, except under medical treatment.

Major-General J. Ross, O.B., Commanding Presidency District.

No; but I cannot see the way to improvement without increase of officers, and consequent additional cost.

Major-General A. H. Macintyre, C.B., Commanding Hyderabad Subsidiary Force.

The organization of the commissariat department has hitherto been found to meet the requirements of war. The principal difficulty arises from the paucity of officers allowed in proportion to the duties that have to be performed. This might partially be remedied without extra cost by appointing a certain number of commissioned and non-commissioned officers, as available, to go through an elementary course of practical instruction in the more obvious duties of the department under the executive officers at the larger stations.

Major-General R. O. Bright, O.B., Commanding Meerut Division.

As far as regards the feeding of troops, it answers admirably. Any improvement required is as regards transport. It carries on its work in war time on a minimum of establishment.

Major-General H. R. Browne, Commanding Sagar District.

I believe the general organization of the department is good, but inadequate in details for war. The recent campaign has shown that it required to be largely supplemented with officers. The abolition of small stations and concentration of troops at larger ones would probably effect a saving that might cover the cost of adding to the department. A good deal of clerical labor, now expended in endless committee reports and minor matters that might well be decided by the executive officers of the department, could, I think, be saved.

Major-General J. W. Schneider, C.B., Commanding Northern Division, Ahmedabad.

In my experience, I have never found the commissariat unable to meet the requirements of war.

Brigadier-General G. Burrows, Quarter-Master-General, Bombay Army.

The organization of the commissariat department has hitherto admirably met the requirements of war; and I see no way in which it can be improved without increasing the cost.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

The commissariat establishments are sufficient only for carrying on the work required of the department in times of peace. Extra establishments have always to be entertained in time of war, whether the war be local or foreign. A reduction in expenditure could be attained by employing Natives of education and intelligence as store-keepers in place of European warrant and non-commissioned officers. It is believed that for from Rs. 100 to 150 per mensem, in proportion to the responsibility

imposed upon them, trustworthy men (willing to give good security for their conduct) and thoroughly efficient could be obtained. I do not think the present organization could in any other way be improved without additional expenditure.

As far as my experience goes, the Bombay commissariat is fully equal to meet the requirements of war.

I am not prepared to answer these two questions (13 and 14).

(a) I believe the organization of the Indian commissariat, as a department of supply, is good and suitable for the requirements of war as well as of peace; but of late years the number of the officers, and the strength of the establishments have been reduced so much, that when any extra demands whatever are made on the department, it becomes necessary to supplement the trained staff by a number of officers and non-commissioned officers ignorant of the duties required of them. As an instance of this, it may be mentioned that during the late expedition into Afghanistan the commissariat duties of nearly every station in this presidency were performed by regimental or staff officers, who had to take the places of officers withdrawn for employment with the expeditionary force. The despatch of the expedition to Malta in 1878 afforded also a proof of the short-handed state of the Commissariat Department, as a considerable number of regimental officers had then to be employed to assist the departmental officers; and this they did with zeal and ability, but without that special knowledge and training so essential for the performance of really satisfactory work in this particular line.

(b) This question propounds a problem which I am unable to solve.

I do not feel myself competent to reply satisfactorily to this question.

(a) The organization is good, but it is barely strong enough; consequently, when war breaks out, untrained officers and subordinates have to be employed. It would be advantageous if the tenure of appointments in the commissariat department was restricted, as in the ordnance department, to five years, unless an officer was promoted during that period to a superior grade, when he would be entitled to a fresh five years. Under this system a large proportion of the officers of the army would have a chance of becoming acquainted with the duties of the department, and would be prepared to take up those duties with the efficiency when war necessitated an increase in the strength of the commissariat department.

(b) This I regard as quite impracticable.

(a) No; certainly not. I think its reorganization is most necessary, as at present it may be said to depend entirely upon contracts, which, though the system may answer for internal warfare, will inevitably fail in an enemy's country, if this and purchases hastily effected at the moment required are the only sources of supply.

(b) I think it requires more of the European element in it, but it should be the best, and they should be properly supervised by a sufficient staff of officers. I have but little doubt that the expense of the introduction of a larger European element in the department will, if properly supervised, be met by the saving caused by its adoption.

It is, I think, I may say, notorious that most, if not all, the articles other than food supplied by the department can be procured better and cheaper locally by officers of corps.

I speak from personal experience of five years' command of a battery in Bombay and four years in Bengal.

It would seem to have been incontestibly proved that the existing organization of the Indian commissariat is not equal to meet the requirements of war; but it appears to be a matter of complete impossibility to in any degree improve its organization and efficiency without adding very materially to its cost.

Speaking generally in every campaign the commissariat department has well performed its functions of keeping the army in the field complete in supplies. The department is during a time of war undisturbed and overworked; but it would be difficult to construct any department which would practically be an improvement on the present one. Alterations might be made in the department; but they are such as would suggest themselves to any energetic officer at the head of the department.

I think not. The whole system seems to be too cumbrous. Officers appear to be too few, and therefore unable to exercise sufficient personal supervision. I can suggest no way of improving it without expense, unless the system of accounts can be much simplified.

Brigadier-General C. T. Aitchison, C.B., Commanding Bombay District.

Brigadier-General F. G. Kempster, Commanding Ceded Districts.

Brigadier-General H. T. Brooke, Adjutant-General, Bombay Army.

Colonel J. A. Tyrler, C.B., F.C., Commanding 4th Goorkhas, and lately Commanding a Brigade.

Colonel J. Macdonald, C.B., Secretary to Government of Bombay, Military Department.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Colonel D. Standen, Assistant Adjutant-General, Burma Division.

Lieutenant-Colonel H. A. Little, Officiating Deputy Assistant Quarter-Master-General.

Major A. A. Kinloch, Deputy Assistant Quarter-Master-General.

14. How can the expansion of the commissariat department (supply and transport) in time of war be provided for?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

A selected officer who understands transport work and organization should be placed at the head of that department, under the direct orders of the general commanding. This being granted, the troops can at all times supply both in officers and men such establishments as may be required to meet the wants of the commissariat in the field. I do not mean that such officers and men would be capable of working regular offices, with all their complicated accounts; but they would be perfectly efficient as collectors and distributors of supplies, and could keep such accounts as would enable the officers of the department to regulate and control expenditure efficiently. I can from experience say that the system here suggested is quite practicable and easily worked.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Oudh Division.

This question embraces most of the difficulties of campaigning.

Supply would be aided by the civil authorities working in conjunction with the officers of the department. Under this head I include carriage of all kinds, as well as grain and slaughter-animals, and delivery at certain points on the main lines of railway.

So long as that power can be used, there is a fair degree of certainty of arrangements working in; but when once field transport takes its place, there must be confusion, unless regularly-trained establishments are available.

Hence it is imperative to turn very early attention to the formation of "transport corps" in *nucleus* form, and to consider the outlay thereon as money admirably spent.

The requirements of the service, and also of private individuals residing at Rawal Pindi, Attock, Kohat, Peshawar, Murree, and so on, might economically be met by using transport corps in conveying goods and stores from Jhelum to Lundi Kotla, and Jhelum to Kuram.

Other bodies might work in various localities as feeders to railways.

Of course, railway expansion up to the very limit of our possessions is the one source of transport that will pay us best; and I assume that Quetta, Thull (or even Kuram), and Peshawar will sooner or later be termini, reducing the wants of field transport very considerably.

Lieutenant-General W. T. Hughes, C.B., Commanding Sirkhind Division.

The organization I advocate, *viz.*, that of attaching the staff and executive officers and subordinates of the two departments to divisions, brigades, and regiments, would, I think, ensure the means of expansion in war time. Officers, non-commissioned officers, and men would qualify themselves to undertake duties which would be very popular.

Lieutenant-General J. Forbes, Commanding Mhow Division.

By greater expenditure in time of peace—a regimental system of transport, mule carriage.

Major-General A. H. Macintyre, C.B., Commanding Hyderabad Subsidary Force.

By comprehensive and accurate estimates of local resources, and by the employment of agents and contractors in time of peace, who can be depended upon to command and to place those resources at the disposal of the State as required for purposes of active service.

Major-General R. O. Bright, C.B., Commanding Meerut Division.

By leaving the supply entirely to them, and relieving them to a certain degree of the transport.

Brigadier-General G. Burrows, Quarter-Master-General, Bombay Army.

This is a very difficult problem. As the army is now organized, it is impossible to furnish the officers required for duty with the commissariat department, transport, &c.; but if the regimental system is reverted to, and Native infantry regiments organized as proposed in paragraph 3, there would be no difficulty in expanding the commissariat department to any extent required.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

The subordinate establishment might be augmented in war time by employing some of the old and experienced hands of the permanent peace establishment for the war establishment, and entertaining new hands in their place.

There are generally a number of candidates, and men who have been temporarily employed before, ready and willing to take temporary employment.

As regards transport animals and attendants, the former must be purchased and entertained wherever obtainable as soon as a force is ordered for service, muzzadums and inspectors being selected from the permanent establishment of inspectors, weighing-men, and cattle attendants.

Brigadier-General C. T. Aitchison, C.B., Commanding Bombay District.

I am not prepared to answer this off-hand. There are so few officers to spare now-a-days, that additional European assistants would be difficult to procure without impairing the efficiency of British regiments, which are reduced as far as expedient in officers.

The Native regiments could not spare a man. Non-commissioned officers, both British and Native, might be readily procured for the subordinate duties, more especially in the transport branch.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

The experience of the late expedition into Afghanistan proves, among other things, that there is now in India but a very small margin of officers available for employment in these branches of the commissariat department, and that, however zealous and willing untrained officers may be, the service they can render must for a time at least be defective, from want of the knowledge and education which is demanded by the special and unaccustomed nature of the work required of them.

It would seem, therefore, that not only on account of the paucity of officers, but also because of the objection to the employment on these duties of untrained officers, it is very undesirable to defer until the officers and the organization are required the formation of a transport department. Except by the addition of an extra number of officers to the Indian army, it is difficult to see how the commissariat department could be expanded in time of war, as in every portion of the military body the officers have been reduced to a minimum; and even the British regiments are, as a rule, so short of officers, that they can give but little assistance, although it was necessarily from them, the Native regiments having no officers at all to spare, that the greater number of officers for transport duty during the late expedition were drawn. It seems to me therefore impossible, except by a permanent addition to the commissariat department of a certain number of officers to form the nucleus of a transport service, to make any satisfactory arrangements for the rapid expansion of the department in time of war. With a small body of trained officers to initiate, supervise, and direct, it is probable that the remainder of the duties could be satisfactorily performed by such officers of regiments or civil departments as could at the time be spared. The trained commissariat officers employed at the various stations might all be utilized for field service, their places being temporarily filled by regimental and staff officers.

I have replied to the latter question under head "Transport."

Colonel J. A. Tytler, C.B., V.C.,
Commanding 4th Goorkhas and
lately Commanding a Brigade.

Colonel H. K. Burne, C.B., Secre-
tary to Government of India, Mil-
itary Department.

This is a very large subject, requiring careful consideration by specially competent and experienced officers.

Every possible assistance was given, and a large number of extra officers attached to the department during the recent operations; but for the most part they had had no previous training.

Colonel J. Macdonald, C.F., Secre-
tary to Government of Bombay,
Military Department.

By increasing the peace establishment permanently, or by having a reserve of officers in the different regiments who have passed a few years in the department.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

I should have certain brigades complete to service requirements of transport supply, and the remainder on a peace footing; a certain number of officers and non-commissioned officers being attached to learn their duties, to be selected from candidates for employment, and who should receive working pay while so employed. A list should be kept of all such who have been trained, with their qualifications, and who would be available in time of war for expansion of the department, and would join with some knowledge of their work, instead of, as at present, being very often, through this very ignorance, in the hands of rapacious and designing Natives.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant Quar-
ter-Master-General.

By simplifying the system of departmental accounts, and limiting the tenures of office in the department to five years, subject to re-appointment.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

I can only suggest that transport should be made a separate department capable of expansion, as proposed in my replies to question (3).

Of the working of the commissariat department I have no practical knowledge.

Captain M. J. King-Harman,
Deputy Assistant Quarter-Master-
General.

By making the following—

- | | | |
|---|------------------------------|------------|
| 1 | Commissary General, | |
| 3 | Deputy Commissaries General, | |
| 4 | Assistant ditto, | 1st class, |
| 4 | Ditto ditto, | 2nd " |
| 6 | Deputy Asst. ditto, | 1st " |
| 6 | Ditto ditto, | 2nd " |

all five-year appointments; provided always that an officer may be promoted on a vacancy occurring in a higher grade before the expiry of his five years.

Also that in every cantonment where there is a commissariat officer one subaltern be appointed as attached to the department, his chief duty being to look after all transport animals, &c., and generally to qualify for employment in the transport department in time of war. This subaltern to be changed *only* when his regiment moves, unless found to be unfit.

The appointments of commissary general and deputy commissary general to be made by *election only*, and not by mere seniority.

The subaltern officer attached would be required to keep up one horse, for which he would receive an allowance, and be exempt from all purely regimental duties, but would receive no extra pay.

In this manner the number of officers more or less qualified for service with the commissariat and transport in time of war would be considerably increased, at no cost to the State; and the department itself would be much benefited by having a steady flow of promotion.

There should be special separate central offices for accounts and *nothing else*, and executive officers relieved of this drag on their efficiency.

15. Cannot the number of followers be reduced both in corps and departments, and for peace and war? Have you any suggestions to make?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

The public followers allowed in cantonments cannot, I think, be reduced. Some few followers whose duties are strictly confined to cantonment work can be dispensed with in the field; but the great mass of them must be retained. Until a substitute can be found for the "doolie," I am not aware that any sensible reduction of public camp-followers is possible.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Oudh Division.

I strongly advocate the abolition of all regimental bazars, which are relics of olden days, quite unsuited to the wants and necessities of the times.

There are sudder bazars in all large stations where everything can be purchased, but whose traders suffer in some degree from the presence of regimental traders; for the soldiers are *not forced to purchase from regimental bunniahs*—in fact, are specially privileged either to do so or not as suits their convenience. As bunniahs are not only unnecessary as camp-followers, but their presence adds to the mouths to be fed in the field, the men should learn to do without them in peace so as not to miss them in war.

Regiments moving by rail in relief invariably leave their bazar people (mustered Government servants excepted) behind them, and take up those left by the corps to be relieved.

In fact, regimental bazars now represent in most stations landed interests. Occupants rarely leave the spot. If they do, they return as soon as their old regiment has reached its new destination. Bazars as formerly known, when crowds of men and families with their household gods followed particular corps everywhere, are things of the past; and are as unnecessary with British as with Native corps.

In the former the coffee-shop men can supply everything, as they have old curiosity-shops.

Natives have few wants; and Native soldiers are always careful of their money.

Whenever regiments march, there are burdashtkhanas and shops of all kinds handy for purchase; and in the field there is the commissariat department for all necessaries of food, and the towns and their shops for luxuries.

I cannot make any suggestions as to the details of reductions of followers in corps or departments, but recommend that certain batteries and regiments, cavalry and infantry, be selected in which to experimentalize the minimum number needful.

I would add, however, that if reductions be carried too far, there is the danger of having to employ fighting-men to do the work.

As regards departments, the general cry for long has been—"Underhanded!"

Lieutenant-General W. T. Hughes, C.B., Commanding Sirhind Division.

The number of followers might, probably, be reduced in time of peace; but I have not the figures before me which would enable me to make any suggestions.

Lieutenant-General J. Forbes, Commanding Mhow Division.

I think the number of followers might be much reduced, if medical men are not consulted, and that it would conduce both to the health and efficiency of the British soldier. I would recommend that British cavalry regiments should, as at home, have an establishment of at least five horses per troop fewer than the men; that, with the exception of a syce for each of the staff sergeants, troop sergeant-majors, and bandmasters, the others should be reduced. I had an opportunity of testing the feasibility of what I recommend in the case of the 3rd Hussars. Cholera broke out among their followers, whom I moved out of cantonments; and nothing could have been more satisfactory than the stable management, and the men worked without syces for upwards of six weeks. This was during the hottest time of the year; but the health

of the men did not suffer from the extra work. I would recommend company cooks being done away with.

Major-General J. Ross, C.B.,
Commanding Presidency District.

Regimental bazars might be abolished.

Major-General A. H. Macintyre,
C.B., Commanding Hyderabad Sub-
sidiary Force.

I do not see how any reduction can be made of the peace scale.

In time of war syces might be reduced to the scale laid down for the recent Afghan war. Grass-cutters are necessary in time of peace.

In time of war in an enemy's country they are nearly useless, although of use on the line of march.

Major-General R. O. Bright, C.B.,
Commanding Meerut Division.

In the Cabul scale I believe followers were reduced to a minimum. In time of peace the number of sweepers in European infantry and cavalry might be reduced, as I see no reason why they should not keep their own barrack-rooms clean, and the employment would be beneficial to them. In hill stations and depôts cooking and all the work in barracks might be done by them, with the exception of attending to the latrines.

Major-General H. B. Browne,
Commanding Sagar District.

Yes; I have no doubt at all that considerable reductions could be made. Certainly as regards corps, by requiring soldiers to do a little more for themselves than is now the case. There is no other country in which they are assisted to the same extent. Tent lascars in regiments of British infantry and syces in corps of cavalry might perfectly be reduced. There can be no good reason why soldiers should not attend to their own horses, at any rate for the greater part of the year.

Major-General J. W. Schneider,
C.B., Commanding Northern Division, Ahmedabad.

It was found in the expeditionary force to Abyssinia that followers could be reduced both in corps and departments. The same has recently been done in Afghanistan. Whether for peace or war, I do not consider the present authorized public followers could be diminished. The private followers, in time of war, could be reduced to the Afghanistan scale given by Colonel Johnson, Officiating Quarter-Master-General in India.

Brigadier-General G. Burrows,
Quarter-Master-General, Bombay Army.

This question will be answered by the Adjutant-General. I do not consider that the number of followers can be reduced on service.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

If the strength of moveable columns is reduced, camp-followers might be permanently reduced, but not otherwise. As regards the commissariat department, with respect to regimental followers, they could be reduced in time of war.

Brigadier-General C. T. Aitchison,
C.B., Commanding Bounay District.

Regimental establishments have been reduced as much as possible. As regards departments, I am not prepared to say.

Brigadier-General F. G. Kempster,
Commanding Ceded Districts.

Doubtless further reductions could be made; but I think officers commanding corps and officers of departments could give hints on this subject.

Brigadier-General J. I. Murray,
Mooltan Brigade.

The present scale for doolie-bearers is much too high.

Not of those actually attached to regiments in peace, unless at depôts or hill stations, where reductions might be feasible. But the moveable column establishments might be largely, if not altogether, abolished, unless where not readily procurable.

Brigadier-General H. T. Brooke,
Adjutant-General, Bombay Army.

In considering this subject, it must be borne in mind that the Native followers perform, though not in the proportion of man for man, duties which in their absence would, in war time and in the field, be performed by fighting men, whose employment for such purposes would reduce the available strength for active operations to that extent. Native followers consequently may be held in a measure to represent a proportional increase in the strength of the combatant ranks. For instance, a battery of field artillery which, on a war footing in Europe, would, with only one line of wagons, have a complement of 167 men in India, has, including the second line of wagons, 158, supplemented by 70 syces and bullock drivers. In a similar way a regiment of British infantry, when not accompanied by Native cooks, water-carriers, sweepers, hospital establishment, clerks and officers' servants, has to detail men for the performance of these duties who would otherwise be in the ranks. It may be said that men so employed would be available for duty on those occasions when the regiment was engaged with the enemy; but in practice this is not so, as I am aware from my own experience in the Crimea. The presence therefore of a considerable number of Native followers is not, I consider, the unmixed evil which it is sometimes represented to be. The accompanying tabular statement shows the authorized followers for corps of the various arms, and the alterations which were made in the list for the special requirements of service in Malta and Afghanistan.

List of authorized followers of British and Native regiments, cavalry and infantry.

18th August 1879.

BRITISH.

CLASS OF FOLLOWERS.	CAVALRY.			INFANTRY.			REMARKS.
	Peace time.	Malta Expedition.	Afghan Expedition.	Peace time.	Malta Expedition.	Afghan Expedition.	
<i>Educational.</i>							
Moonshee ...	1			1			
<i>Subordinates, Medical and Hospital.</i>							
Apothecary and assistant	2			2			* Hospital writer.
Apprentices ...	2			2			
Hospital assistant ...	1			1*			
Nurse ...	1			1			
Assistant nurse ...	1			1			
Dresser ...	1			1			
Shop-coolie ...	1			1			
Purveyor's servants ...	2			2			49† † Details will be given hereafter.
Tailor ...	1			1			
Barber ...	1			1			
Head-cook ...	1			1			
Cooks ...	2			2			
Washermen ...	3			3			
Bhisties ...	5			5			
Sweepers ...	5			5			
Ward-coolies ...	10			10			
Doolie-bearers ...	8			8		522	
<i>Native Followers.</i>							
Tindal and lascars ...	7	No cavalry employed.		9	No infantry employed.	8	
Shoeing-smith. ...	6			...		...
Jemadar syces ...	2			...		...
Hospital do. ...	2			...		...
Muccadum of syces ...	6			...		...
Do. of grasscutters	6			...		...
Syces ...	193			...		...
Grasscutters ...	146			...		...
Dhobbies ...	...			...		...	8
Cooks ...	...			...		...	32
Muleteers ...	...		...	...	2		
Camelmen ...	...		...	...	35		
Bazar establishment ...	...		...	...	16†		
Officers' servants ...	...		...	...	39		
<i>Quartermaster's Establishment.</i>							
Puckalies ...	12			16		32	
Sweepers ...	12			16		8	
Chowdry ...	1			1		} †	† Probably included in the "16" above shown
Weighmen ...	2			2			
<i>Conservancy.</i>							
Bhisties ...	7			10			
Sweepers ...	7			10			
Bildars ...	2			2			
Total ...	459			114			

List of authorized followers of British and Native regiments, cavalry and infantry—continued.

NATIVE.

CLASS OF FOLLOWERS.	CAVALRY.			INFANTRY.			REMARKS.
	Peace time.	Malta Expedition.	Afghan Expedition.	Peace time.	Malta Expedition.	Afghan Expedition.	
<i>Sub-Medical and Hospital.</i>							
Hospital assistants ...	2	3	7	4*	3	4*	* Includes 2 medical pupils.
Goorgah ...	1	1		1	1	1	
Bhisties ...	1	2		2	2	2	
Sweepers ...	1	2		2	2	2	
Doolie-bearers ...	4	74	243	4	86	366	
Shop-coolie ...	...	1	...	...	1	...	
Cooks ...	...	2	...	...	2	...	
<i>Native Followers.</i>							
Native accountant ...	1	1	...	...	...	...
Lascars ...	2	1	...	9	1	9	
Bhisties ...	6	12	6	8	12	8	
Cooks ...	...	12*	12	...	16	16	
Siklighurs ...	...	6*	...	...	...	...
Moochees ...	...	6*	...	...	1	...	
Mistries ...	...	2*	...	...	1	...	
Tinmen ...	...	2*	...	...	2	...	
Moonshee ...	...	1*	...	...	1	...	
Moulvio ...	...	...	...	...	1	...	
Gruntee or pundit ...	...	1*	...	...	1	...	
Quartermaster and Adjutant's writers ...	...	1*	...	...	2	...	
Officers' servants ...	...	...	49	...	...	37	
Grasscutters ...	...	...	295	...	...	...
Syces ...	...	...	58	...	...	...
Dhobies ...	...	...	...	...	...	3	
Camelmen ...	...	...	50	...	...	...
Artificers ...	...	...	13	...	...	...
Bazar establishment ...	...	...	12†	...	...	12	
Sweepers ...	...	...	6	...	...	8	
<i>Quartermaster's Establishment.</i>							
Chowdry ...	1	1	}+	1	1	1	
Mutsuddy ...	1	1		2	2	2	
Weighmen ...	3	3		2	2	2	

List of authorized followers of a battery of field artillery.

CLASS OF FOLLOWERS.	Peace time.	Malta Expedition.	Afghan Expedition.	REMARKS.
<i>Sub-Medical and Hospital.</i>				
Assistant apothecary ...	1	1	1	
Assistant nurse ...	1	...	...
Purveyor's servant ...	1	1	1	
Barber ...	1	1	1	
Cook ...	1	1	1	
Washerman ...	1	1	1	
Bhistic ...	1	1	1	
Sweepers ...	2	2	2	
Ward-coolies ...	2	2	2	
Doolie-bearers ...	4	42	96	
Hospital assistant ...	...	1	...	
Purveyor ...	...	1	1	

List of authorized followers of a battery of field artillery—contd.

CLASS OF FOLLOWERS.	Peace time.	Malta Expedi- tion.	Afghan Expedi- tion.	REMARKS.
<i>Native Artificers and Followers.</i>				
Tindal	1	1	1	
Store lascars	12	12	12	
Tent lascars	2	...	...
Puckalics	3	8*	8*	* Hand-bhis- ties.
Puckali for sick horse stable	1	...	...
Jemadar syces	3	3	2	
Syces	71	71	31	
Grasscutters	37	...	130	
Bullock drivers	38	...	38	
Maistry smith	1	1	1	
Fireman	1	1	1	
Filemen	2	2	2	
Hammermen	2	2	2	
Maistry carpenter	1	1	1	
Carpenters	2	2	2	
Moochee	1	1	1	
<i>Conservancy.</i>				
Bhisties	2	...	...
Sweepers	5	3	3	
Bildars	1	2	2	

On both the late occasions of the employment of troops out of India, the class of Native followers which swelled the numbers to so vast a figure was the doolie-bearers, who represent the ambulance of a European army, and are probably, great as is their number, less expensive and more efficient than any system of sick carriage yet devised. At the same time, it seems to me that the proportion of doolie-bearers sent with the Cabul expedition was excessive, though no doubt this was an error on the right side. Bearing in mind the difficulty or impossibility of rapidly increasing the effective fighting strength of a British or Native corps in India, I would not be disposed to reduce any of the Native followers, whose places would of necessity have to be taken by soldiers. The number of the doolie-bearers must always vary according to local circumstances, the distance from the base of operations and from railroads, and the possibility or otherwise of using wheeled carriage. A small reduction might possibly be made in the number of cooks, bhisties, and sweepers; but these are all most useful classes of servants, and some margin should be allowed for probable casualties among them. If it were possible to raise batteries of artillery to their full European complement for war service, syces could with advantage be dispensed with; but it will probably always be found more convenient and more economical in India to retain the syces and bullock-drivers, and the smaller complement of European gunners and drivers.

The number of followers in Native corps is not excessive in peace time, nor could they be well reduced in war. Every Native regiment should have two bhisties per company in active service, one bunniah for two companies instead of one per company; and the same for sweepers would answer in war.

I do not think the number of followers can be materially reduced in peace; and in all recent operations they have been reduced to the lowest possible limit.

A few might be reduced; but their retention makes available a large number of fighting-men. The most numerous are the doolie-bearers and grass-cutters. If the former are reduced, the carriage for the sick and wounded will be affected detrimentally. Similarly, any reduction in the number of grass-cutters with a force in the field would curtail the supply of forage, and throw on fighting-men extra duties which are as well performed by followers.

I think the scale of followers allowed during the late campaign is suitable, with slight modifications. I suggest that reports of officers employed in last campaign be considered, and the scale be finally re-adjusted according to their reports.

Colonel J. A. Tyler, O.B., V.O.,
Commanding 4th Goorkhas and
late Commanding a Brigade.

Colonel H. K. Burne, O.B., Secre-
tary to Government of India, Mili-
tary Department.

Colonel J. Macdonald, O.B., Secre-
tary to Government of Bombay,
Military Department.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

Beyond the sea it is capable of further reduction ; but an increase in the European element will then be necessary.

I do not think in time of peace the present establishment can be reduced, nor in time of war for internal operations on the plains of India, unless they are expected to be of short duration.

See copy of correspondence on this subject attached (4).

A

No. 7003, dated 19th July 1879.

From—MAJOR-GENL. P. S. LUMSDEN, C.B., C.S.I., Adjt.-Genl. in India,
To—The Secretary to the Government of India, Military Department.

I have the honor, by desire of the Commander-in-Chief in India, in continuation of, and with reference to, paragraph 2 of this department letter No. 2038B. of the 1st instant, to remark as follows, in reply to Military Department letter No. 250D. ^{Establishment}_{Regimental}, dated 23rd January 1879, as regards the possibility of reducing permanently the Native establishments attached to batteries of royal artillery serving in this country.

2. The reduced Native establishment for service beyond the frontier was accepted not because it was good or desirable as a permanent arrangement, but because it was necessary on active service, in the same way that it was necessary to substitute small tents for the larger ones and for many necessities in peace time to be foregone altogether. But it is not to be inferred therefrom that the men and horses have not to a certain extent suffered from the reduction, even while beyond the frontier; and this has been clearly shown to have been the case in a marked degree during the march back to India.

3. The above scale was fixed for service beyond the border in a cool climate; and would not, in the Commander-in-Chief's opinion, answer in the plains of India during the hot weather without the men suffering in health and the horses from want of proper care.

4. From pages 1 and 3 of the tables published with Army Circular dated 1st September 1878, it will be seen that a battery of horse artillery serving at home has a strength of all ranks, exclusive of commissioned officers, of 156 men and 106 horses, and a battery of field artillery of 153 men and 84 horses. In both the horse and field artillery 15 non-commissioned officers and artificers per battery are exempt from grooming; whilst, as in the cavalry, from 25 to 30 per cent. of the remainder are not available, being employed on other duties, or sick in hospital, &c. This leaves rather less than one man per horse in a battery of horse artillery, and about 100 men to 84 horses in a field battery.

5. The strength of batteries serving in India is—

	Men. Syces. Horses.		
Horse artillery	...	157	118
Field artillery	...	157	71
		178	110

The non-commissioned officers exempt from grooming in England, having similar duties to perform, are equally exempt from such work in this country; but the number of men who are available for stable work is much less than it is in England, there being, as a rule, a much larger percentage of sick, and not less than 10 men per battery absent at convalescent depôts. In support of this, it may be stated that, from a statement compiled in the office of the Deputy Adjutant-General, Royal Artillery, it appears that, exclusive of the non-commissioned officers exempt from grooming, fully 50 per cent. of the Europeans serving with batteries are available for stable work. It also appears that from various causes an average of 12 syces are not available, which reduces the number of men (Europeans and Natives) to about 174 men to 178 horses in the horse, and to about 127 men for 110 horses in the field, artillery; or not quite one man per horse in the former, and rather more than one in the latter.

6. With reference to the latter portion of the foregoing paragraph, it may be well to point out that, while the field batteries have a larger proportion of men available for stable duties, their work as regards the care of the harness, &c., is much greater, as they drill with the whole of their guns and wagons; whereas the horse artillery, as a rule, drill with the guns only.

7. The numbers given in paragraph 5 have been very carefully arrived at; but it is found in practice that one man per horse is very seldom available, the number of men absent from various causes being, as a rule, in excess of what has been allowed for.

8. Under these circumstances, Sir Frederick Haines considers that any reduction in the number of syces at present allowed to batteries of horse and field artillery would seriously impair the efficiency of these batteries, and that the measure, if carried out, would affect the health of the Europeans, and instead of proving an economical arrangement would, in the end, prove just the reverse.

9. In further proof of the undesirability of carrying out the proposed reduction, I am to submit the enclosed correspondence relative to the condition of the batteries recently returned to Peshawar, from which it will be seen that, in the opinion of the medical officer, the health of the men has not only suffered very severely from the exposure to which they were necessarily submitted, owing to the paucity of syces, but that deaths have occurred attributable to this excessive exposure.

10. As in the case of the British cavalry (*vide* paragraph 13 of my letter previously referred to), so long as the present system of providing forage prevails, any reduction in the number of grass-cutters at present allowed for the royal artillery is entirely out of the question; and the other Native establishments barely meet requirements.

11. Sir Frederick Haines desires to bring to the notice of Government, in the event of comparison being made between the proportion of syces for a given number of horses in the cavalry and artillery, that the latter have, in addition to the harness and appointments, the guns, carriages, and a large quantity of stores in charge, which require constant care and attention. These duties leave the men of the royal artillery with but little leisure for amusements, which is evinced by the fact that, however anxious to do so, men of this branch can rarely find time to devote themselves to regimental gardens, or to avail themselves of the privileges afforded by such institutions as workshops.

No. 996, dated Peshawar, 1st July 1879.

From—MAJOR C. WILSON, Commanding Royal Artillery, Peshawar District,

To—The Deputy Adjutant General, Royal Artillery in India.

I have the honor to inform you that I have this day despatched to

“D-A C-3, suffering very severely from cholera. Sickness aggravated by exposure, owing to want of syces. None obtainable here.”

your address the telegram as per margin.

D-A, Royal Horse Artillery, have now had some 23 or 24 cases of cholera, mostly fatal, as well as 3 or 4 cases of sunstroke. The labour entailed by the work of 200 horses is, in the opinion of the medical officer, telling on them very severely; and unless they are helped soon, he anticipates very serious results. As it is now, the battery is unable to change camp as often as is desirable, in consequence of the great exertion and consequent exhaustion suffered by the men now reduced to about 100 for duty. The same remarks apply to C-3, Royal Artillery, who have had several cases of sunstroke, mainly to be attributed to the extra exposure entailed owing to the want of syces. None are to be procured here. Every exertion has been made to enlist, but without any result; and large numbers have deserted. I trust that something may be done, without delay, to assist the men, either by procuring syces from down-country, or, as suggested in my No. 954 of 14th June 1879, by casting horses unfit for the service at once. This would relieve the work greatly.

No. 1561S.D., dated Simla, 22nd August 1879.

From—The Secretary to the Government of India, Military Dept.,

To—The Adjutant-General in India.

In reply to your letters noted in the margin, I am desired to acquaint

No. 2088 K., dated 1st July 1879.

No. 7003, dated 19th July 1879.

you, for the information of the Commander-in-Chief, that the Government of India accept His Excellency's proposal to reduce the establishment of syces for regiments of British cavalry in India from its present fixed strength of 254 per regiment, as laid down in G. O. No. 99 of 1873, to 227 (exclusive of syces allowed for hospitals), to be distributed as recommended by Sir Frederick Haines, *viz.*—

For each full rank non-commissioned officer, farrier, and trumpeter, one syce; for 5 troops with 12 of the above and one troop with 11	...	71 syces.
Six troops with 26 syces for the remaining horses	...	156 „

Total	...	227 „
-------	-----	-------

2. I am accordingly to convey the sanction of Government to the reduction being given effect to as a temporary and tentative measure.

His Excellency's views as to the impracticability of safely reducing the number of syces employed with royal artillery, or the establishment of grass-cutters with either artillery or cavalry, are concurred in by Government.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant
Quarter-Master-General.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

That the followers can be reduced in time of war with advantage has been proved during the late operations in Afghanistan. In the time of peace fewer followers with corps would conduce to the health of the soldier. There is no reason why soldiers should not carry water for their own personal use, nor why they should not sweep out their barrack rooms, as at home, and clean the tables and forms. At the hill stations they might fitly do their own cooking, as at home. Punkha-coolies are, I think, of very little advantage or comfort to the troops: their number has been cut down so much of late years. In fact, as punkhas are now pulled in barracks, they only make the heat more felt than if there were none.

I think it rather difficult to reduce followers very much; though it is highly desirable to do so to the utmost amount possible.

Company cooks might be dispensed with in hill-stations and in cold weather.

The number of syces with cavalry regiments might be reduced.

Punkha-coolies might be dispensed with by the adoption of some simple form of machinery. The objection so often raised, that no machinery gives exactly the same motion to the punkha that a coolie can give, is, I think, a very poor one. Few coolies pull really well; they constantly go to sleep and stop altogether, or pull by fits and starts. Any uninterrupted swing would be better.

Kahars might be much reduced in numbers by the substitution of wheeled or pack-animal ambulances as far as possible. I look upon kahars as about the greatest encumbrance to an army, especially when they are so badly selected as was the case in the last campaign. Many of them were hardly capable of carrying themselves; and one constantly saw doolies and dandies laden with sick kahars, their clothes and cooking-pots.

Baggage might be considerably reduced on service by the substitution of cooking vessels of a convenient pattern for the heavy and cumbrous brass dishes carried by most Native troops. The same may be said of the heavy round iron water vessels carried by some regiments.

Most certainly they can.

Punkha-coolies can be reduced in every station in India by the introduction of mechanism for pulling punkhas in barracks and hospitals. Many systems have been tried and failed, because, owing to the small encouragement given by Government, they have been almost without exception designed by amateurs.

Mr. Mortimer, of the Barrack Department, has however invented a good practical system, which is now in force at Dinapore, and, for want of a better, should be introduced generally.

Bhisties may be reduced during *peace time* by the general introduction of pumps to wells for all purposes.

Grass-cutters with batteries of artillery and regiments of cavalry might be all dismissed, as grass is *always* procurable by purchase at *all* times and places throughout India, whether in cantonments or on the line of march; and as the cost of it would be much less than the pay of the grass-cutters, they might be done away with altogether.

I would therefore beg to make the following suggestions:—

(a) Substitution of machinery (Mortimer's invention) *at once* for punkha-coolies in all barracks at Meerut, Umballa, Rawal Pindi, Lucknow, and Fort William; and that in the meantime Government should offer a substantial reward of, say, £2,000 up to £5,000 for the best system.

(b) The gradual introduction of pumps and covered wells.

(c) The abolition of all artillery and British cavalry grass-cutters *as such*, and the utilization of the men and ponies in *transport*, cleaning lines, and as *mounted orderlies* in cantonments *in place of cavalry sowars*, &c.

(d) I would suggest the reintroduction of extra syces, sikdighurs, and extra messing, in all batteries of artillery and regiments of British cavalry in a slightly modified form to what existed in former days. My reasons for this is as follows.

Formerly, under this system, the men were allowed to have extra help as well as extra food by paying for it. The men were less hard-worked, much more contented, and not less efficient than they are now, while the service out here and the country derived the greatest benefit by the numbers of volunteers who remained in India after the departure of their regiments for England; whereas now-a-days few, if any, artillery or cavalry men volunteer, except those who have married country-born women; and the reason given by themselves is that they have exactly the same work to do in India as they have in England, with the great disadvantage of a bad climate to do it in.

The number of *private* followers would be increased during *peace time*; but the health of the soldier, and consequently his efficiency, would be improved, and no public expense would be entailed.

Captain M. J. King-Harman,
Deputy Assistant Quarter-Master-General.

The infantry soldier requires no such extra assistance. In fact, he does not get enough work to do, even as it is.

The 16th Lancers, 3rd Light Dragoons, Bengal Artillery, and (during the latter part of their service after the mutiny) the 9th Lancers also, carried this to perfection.

16. Have you any suggestions to make as regards the system of cloth and white clothing for British troops?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

Troops serving in Madras, Burma, and Lower Bengal do not require cloth clothing at all; but the substitution of serge for cloth can hardly be called a saving, as the soldier always expects compensation when a cheaper article is issued to him in lieu of his regular equipment. Although white clothing is never used on service, it is hardly necessary to interfere with it, as it is supplied at the soldier's cost, and is at once dyed when troops are warned for field service.

Lieutenant-General C. T. Chamberlain, C.S.I., late Commanding Oudh Division.

Abolish the clothing department and purchase from contractors, who will have an interest in supplying good material.

Furnish corps with cloth and et-ceteras in bulk, and let the regimental authorities make up their own clothing entirely according to the sealed pattern.

The departments at Pimlico and Calcutta are well abused, and in many instances not without cause. Government would be better served, I believe, if there were fewer interested parties than at present.

The white clothing, which is always made up under contract, is always well fitting good material. The men who make that can make the cloth set.

Lieutenant-General W. F. Hughes, C.B., Commanding Sirhind Division.

I think great alterations are needed both as regards material and make. At certain seasons in the plains of India white or colored cotton clothing is essential.

Lieutenant-General J. Forbes, Commanding Mhow Division.

No suggestions.

Major-General J. Rois, C.B., Commanding Presidency District.

Drab or stone color is preferable to white for summer clothing in every way. Now when a regiment receives orders to prepare for field service, there is a most inconvenient, and should be unnecessary, hurry-scurry to get the white turned into any other color.

Major-General A. H. Macintyre, C.B., Commanding Hyderabad Subsidary Force.

I think cloth clothing unnecessary in this country, and recommend that none be issued. An extra serge coat should be issued instead, and compensation in money to the full extent to enable the soldier to buy white clothing and extra serge if necessary.

During peace I recommend white clothing for warm weather, as at present worn; but for active service I recommend that this be dyed khaki color.

Major-General R. O. Bright, C.B., Commanding Meerut Division.

I consider good serge is a better material than thick cloth for winter. Nothing could be better adapted for the country than the present white clothing. It is clean and cool, and, in the event of active service, is dyed in a few hours without any damage to its future use.

Major-General H. R. Browne, Commanding Sangor District.

I consider that the issue of cloth clothing is not necessary at nearly all stations south of Umballa. The substitution of serge would be an advantage. The white clothing, though admirably adapted for garrison duty and suitable to hot weather, has this defect, that it is totally unsuited to active service: an alteration of color, such as khaki dye, would remedy this defect.

Major-General J. W. Schneider, C.B., Commanding Northern Division, Ahmedabad.

No; the system in force in this division answers every purpose.

Brigadier-General G. Burrows, Quarter-Master-General, Bombay Army.

Will be answered by the Adjutant-General.

Brigadier-General F. W. Jebb, Assistant Adjutant-General, Madras Army.

At stations within the tropics, where white clothing is worn during the day nearly all the year round, and serge clothing during the nights and on wet cool days, I think the English cloth tunic should cease to be issued; but instead of it the necessary serge and white clothing might be provided free of cost to the soldier.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

No suggestion to make.

Brigadier-General C. T. Aitchison, Commanding Bombay District.

As regards clothing in garrison, I think it would be sufficient to issue cloth clothing every fourth year, and serge for the intermediate years.

Brigadier-General F. G. Kempster,
Commanding Ceded Districts.

Cloth clothing for British infantry quite unnecessary and unsuitable south of lat. 18°. Serge is quite sufficient.

I can see no substitute for white clothing during the very hot months. Khaki once washed looks bad and loses its color.

The mounted branches require *cloth* trousers for riding, as nothing else will stand the wear and tear.

Brigadier-General J. I. Murray,
Mooltan Brigade.

Cloth tunics and trousers are generally so little worn, that they might well serve four years, and serge be issued instead. If the serge coats were lined, they would last much longer and not become discolored by perspiration.

Khaki clothing is much more serviceable than white, wears longer from not being so frequently washed, and fewer snits could be necessary.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

The variations of the climate in India necessitate both warm and light clothing being kept up; and I am not aware of any objections to be urged against the present system, except that the cost of the white clothing, a large supply of which is necessary, falls heavily in the first instance on the soldier. From time to time, when the cloth clothing was found in sufficiently good order to continue serviceable for a further period, the grant of compensation, in lieu of an issue in kind, to be expended in the purchase of white clothing, would probably be found advantageous; and this course is sometimes adopted.

I would have no white clothing for British troops; khaki clothing should be worn instead.

Colonel J. A. Tytler, C.B., V.C.,
Commanding 4th Goorkhas and
lately Commanding a Brigade.

Colonel H. K. Burne, C.B., Secretary
to Government of India, Military
Department.

The present scale of clothing was laid down after due consideration, and seems very suitable.

A proposal, which seems an excellent one, has recently been made to substitute flannel shirts entirely for cotton shirts in the soldiers' kits, and is now under consideration.

Colonel J. Macdonald, C.B., Secretary
to Government of Bombay,
Military Department.

None.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

The full dress is seldom worn out in this country.

Generally, the soldier is provided with more cloth clothing than he requires; and while I do not advocate a change in the present system of issue, I suggest that commanding officers be empowered to draw compensation in lieu for any men whose clothing does not require to be renewed, to be devoted towards the renewal of their white clothing or in keeping up their service dress.

Colonel D. Standen, Assistant
Adjutant-General, Burma Division.

None, except that the issue of cloth tunics be discontinued, and that the clothing of British infantry regiments should invariably be issued in material and made up regimentally.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant Quarter-Master-General.

Both cloth and white clothing might suitably be excluded from the soldier's kit in India, leaving serge clothing only lined with flannel with additional articles of under-clothing where required by the coldness of the weather. White clothing, I feel convinced, is injurious to health; but what men require most is plenty of warm clothing of the very best quality at night. The blankets now served out are, I think, a poor substitute for the *rezni*, discontinued, I believe, on sanitary grounds.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

I consider the issue of a tunic and cloth trousers on alternate years to be quite unnecessary. I think the tunic a most unserviceable coat in every way, and especially badly adapted to India.

If it *must* be retained as a parade dress, it would be quite sufficient to issue one every third or even fourth year, serge being issued every year.

The cloth trousers are also very inferior. They are stiff and uncomfortable, and very soon look shabby. Their issue should be discontinued altogether, and a superior description of serge issued annually.

In cold weather men might be supplied with a warm guernsey or cardigan to wear underneath the serge coat, which would then meet all requirements.

Light clothing being a necessity for India, I think that Government might do all in their power to cheapen the material required for it. This might be done by giving contracts for the supply of cotton drill to large mill-owners, and issuing the cloth to regiments at cost price.

The wearing of white clothes during the hot weather entails very considerable expense to the men, both in the way of wear and tear and the cost of washing.

I should like to see white clothing abolished altogether, and good khaki substituted. The principal objection urged against this is, that hitherto it has apparently been found impossible to obtain a fast dye,

and that consequently the men of a regiment are dressed in all sorts of tints, varying in shade according to the time that the clothes have been worn, or the number of times that they have been washed.

The best khaki is undoubtedly that which is yarn-dyed; but even that fades.

It would surely be possible for experienced English dyers to invent a dye that would be permanent.

If the issue of tunics was either discontinued altogether, or made less frequent, and that of cloth trousers totally abandoned, compensation might be given in the form of an occasional additional suit of serge clothing; or by cheapening the price of cotton drill.

17. Would you recommend the issue of a service suit of clothing made of cheap and durable material to be worn on service in the field instead of the present uniform?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

The issue of a service kit would no doubt be a boon to the soldier; but I am not prepared to recommend it, because without this kit the troops could never be considered equipped for service, and it would relieve them from a responsibility which it is extremely desirable to maintain at all times. In point of fact, the troops provide themselves universally with khaki uniforms, which are worn alone in mild weather and over their cloth clothing in cold.

Lieutenant-General C. T. Chamberlain, O.S.I., late Commanding Oudh Division.

In answer 1 (clause g), I have already advocated that khaki be the regulation uniform for field service.

So much depends upon locality, season, and climate, that I suggest the introduction of a style of dress to be used everywhere.

I believe every one wore khaki during the late war, and mostly over the regular cold-weather uniform.

Lieutenant-General W. T. Hughes, O.B., Commanding Sirhind Division.

I would.

Lieutenant-General J. Forbes, Commanding Mhow Division.

I would recommend this issue, but would not confine its use for only on service, but consider a suit of this description could be worn on all occasions for a great portion of the year.

Yes, of drab color.

Major-General J. Ross, C.B., Commanding Presidency District.

Yes; a service suit of strong material and darkish-grey in color. For cold climates this should be of warm material, with a sheep-skin over-jacket in addition.

Major-General A. H. McIntire, C.B., Commanding Hyderabad Subsidiary Force.

For service in warm climates I prefer trousers as now worn. For cold climates I recommend the knickerbocker shape with warm woollen socks and gaiters.

Major-General R. O. Bright, C.B., Commanding Meerut Division.

For any service in the plains the present serge and white clothing are sufficient. For service in the hills during the winter months a suit of strong puttoo would be very useful, being warm and much the same color as khaki.

Major-General H. R. Browne, Commanding Saugor District.

No doubt such a suit would be desirable, but there must be two suits.

A soldier has already—

1 suit cloth.

1 suit serge.

4 suits white.

I do not see how he is to maintain two additional suits. The present white clothing, if dyed to a suitable color, would answer the same purpose.

Major-General J. W. Schneider, C.B., Commanding Northern Division, Ahmedabad.

Yes; of dark-green or blue serge or other woollen material. Red serge soils so soon, and looks dirty after a few days' work.

Brigadier-General G. Burrows, Quarter-Master-General, Bombay Army.

Will be answered by the Adjutant-General.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

I would recommend a quilted coat, coming to below the knee made of strong American drill, and dyed either red or blue, according as to whether for infantry, cavalry, or artillery. A coat of similar material, but not padded, and much shorter, for ordinary fatigue duties in camp. Quantities of this cloth are made in Cawnpore.

Brigadier-General C. T. Aitchison, Commanding Bombay District.

Yes; on service I would recommend a special issue of a Norfolk jacket, of material suitable to the climate in which the campaign will take place.

Brigadier-General F. G. Kempster, Commanding Ceded Districts.

Brigadier-General J. I. Murray, Mooltan Brigade.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Colonel J. A. Tytler, C.B., V.O., Commanding 4th Goorkhas and lately Commanding a Brigade.

Colonel H. K. Burne, C.B., Secretary to Government of India, Military Department.

Colonel J. Macdonald, C.B., Secretary to Government of Bombay, Military Department.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Certainly not. A soldier's ordinary uniform should be suitable for all occasions. I doubt if any *durable* material can be had cheap, whatever may be the *color*. The British and Native armies should be the same, so that it may be easily distinguished at a distance in time of war. Regiments wearing different colors has led to many serious mistakes and losses in the field.

Yes; and recommend a khaki drill Norfolk jacket or blouse that could be worn over the serge or cloth coat; also leather leggings.

The necessity for such an issue as is suggested in this question implies that the present uniform is unsuitable for service in the field—a proposition which, as far as the British troops are concerned, I am not prepared to admit, as it appears to me difficult to devise any dress which would better meet the necessity of service than the present serge jacket and trousers and the white clothing of British infantry, which latter in war time can rapidly and cheaply be dyed a khaki color. I think it is undesirable, the moment the English army takes the field, to put aside the national color; and this is specially objectionable in India, where it is probable that a khaki-colored dress would be assumed by Native troops against whom we might have to fight. There are alterations in the details of the cut and material of the existing uniforms which might possibly be made; but it seems to me to be a much more sound and proper measure to endeavour to make the ordinary dress of the soldier a suitable one for campaigning than tacitly to acknowledge it as unsuitable, and then seek the remedy, not in its improvement, but in the issue of another dress for the special service only.

Vide reply to query 1 (b).

Certainly; a good loose blouse of khaki, so made as to be easily pulled over his red coat, if necessary. All belts should be brown and not pipe-clayed; good *puttees*, or canvas gaiters, like those worn by the European gunners of the mountain battery.

No additional clothing seems called for, unless each man were required to keep himself supplied with a khaki blouse.

If the soldier's uniform is suitable (as it ought to be) for wear on service, I should say no.

Yes; most decidedly. The soldier should be dressed for war instead of as at present for peace. The consequence is that when troops proceed on service, they often get what is termed a service kit. I would recommend the most suitable dress for war being adopted. This can be made smarter for peace time by adding additional lace, &c., which can be removed on taking the field, or else have the undress built on the war model, and the full dress, which would be left behind on proceeding on service, left as it now is.

The British gunner in his tight clothes—jacket, tunic, pantaloons, trousers, long boots, stiff forage cap, &c.—is most unsuitably dressed for active service.

If a separate dress for service be decided upon, an established pattern should be sealed, so that it could be procured locally.

I think for the artillery a blue serge, Norfolk jacket pattern, as supplied for mountain batteries, will be the most suitable; breeches, with lace boots, gaiters, and hunting spurs for mounted branches; knickerbockers, lace boots, and gaiters for garrison artillery.

I found blue serge the best in China and Abyssinia on service. In the former country, during my tenure of the command of the royal artillery there in 1863-64, I attribute much of the good health enjoyed by the artillery in Hong-Kong to its use instead of the white clothing, as worn by the other European corps in the hot weather. While the infantry regiment was losing 90 to 100 men yearly, the mortality in the artillery at this same station was almost nil.

The white drill or khaki generally induces chills when men perspire, and which the serge does not.

If cold is anticipated, a thicker material can be used. It should be made loose so as to admit of a stout flannel shirt being worn underneath when necessary.

A portable (folding) forage cap should also be issued for service to the artillery, in assimilation with the infantry glengary, the distinguishing letters or numbers of battery and brigade in brass being worn at the side.

The present artillery forage cap is neither comfortable nor portable, and is consequently quite unfit for field service.

Yes, I think the issue of a drab-colored khaki suit made of some cheap and durable material, instead of the present uniform, would be very beneficial and useful.

Colonel D. Standen, Assistant Adjutant-General, Durban Division.

Lieutenant-Colonel H. A. Little,
Officiating Deputy Assistant
Quarter-Master-General.

Major A. A. A. Kinloch, Deputy
Assistant Quarter-Master-General.

Captain M. J. King-Harman,
Deputy Assistant Quarter-Master-
General.

Yes, but only when a regiment has been warned for active service. A dark-colored khaki blouse, with trousers of the same material, and of a color which will not show dirt, to be worn *over* their other clothes in a cold climate, and alone if the weather is very warm.

Experience has proved the great superiority of khaki over all other colors for field service. If khaki were adopted as the regular dress for hot weather, an additional suit for service would be unnecessary.

The khaki could always be worn, either alone or over the serge, or whatever other garments the men chose to wear in cold weather.

Even if white is continued for ordinary wear, each man should be in possession of a khaki suit for drill or fatigue duties.

In case of a regiment going on service, the white suits could always be dyed, as is done at present.

Certainly not. Cheapness is not compatible with durability; and even if such a wonderful article as cheap and durable cloth was to be obtained, the special service suit would never be forthcoming when wanted.

For service in the cold weather, nothing is so serviceable as yarn-dyed khaki drill worn over the present uniform.

I see no reason why the khaki color should be adhered to, as it often proves inconvenient, a general sometimes not being able to see his own men.

Yarns might be dyed a permanent red, or green, just as well.

18. Is the issue of cloth clothing for British troops necessary in all parts of India?

Lieutenant-General Sir D. M. Stewart, K.C.B., Commanding Southern Afghanistan Field Force.

This question has been answered above; but I may add that, as regards clothing and bedding, British troops should be supplied in accordance with the climate in which they are serving. I believe some changes have been made in this direction of late years; but I fancy there is still room for reform and economy in this respect.

Lieutenant-General G. T. Chamberlain, C.S.I., late Commanding Onda Division.

Within the tropics cloth clothing can hardly be *necessary*. Most probably serge would meet all the requirements, and is quite good enough for full dress purposes.

I was told by an officer of the Madras army that he had never found any use for a cloth coat throughout his service until his regiment came up to Jubbulpore.

Lieutenant-General W. T. Hughes, C.B., Commanding Sirhind Division.

Certainly not. Coats of English broadcloth for British troops serving in Central and Southern India are quite unnecessary, and might be replaced by serge tunics.

For the various temperatures a soldier has to serve in, even in the East, I consider cloth ought to form one of the articles of clothing; but the issue might be made at longer intervals and for the greater portion of the time a suit worn (*vide* paragraph 17).

It is unnecessary, except in the Punjab and in hill stations.

Answered in No. 16.

In the hotter stations cloth clothing is almost useless. I should prefer a good strong serge, supplemented in the cooler stations by a good thick waistcoat, with sleeves.

No; it could very well be dispensed with at most stations in the plains.

It is necessary in this division, when the cold from January to March is sometimes considerable.

Will be answered by the Adjutant-General.

Cloth clothing is useless to the British soldier throughout Southern India and British Burma, with the exception of Bangalore; and there serge clothing would be equally suitable.

I think it is necessary.

Yes, I think so; but, as suggested in reply 16, the issue of cloth clothing need not be so frequent.

Major-General H. R. Brown, Commanding Saugor District.

Major-General J. W. Schneider, C.B., Commanding Northern Division, Ahmedabad.

Brigadier-General G. Burrows, Quarter-Master-General, Bombay Army.

Brigadier-General J. W. Jebb, Adjutant-General, Madras Army.

Brigadier-General H. H. A. Wood, C.B., Commanding Deesa Field Brigade.

Brigadier-General C. T. Aitchison, C.B., Commanding Bombay District.

When in command of a battery in Hyderabad in Sind, I accepted a contract for work for the battery barracks, but for the above reason declined to take similar contracts for the infantry corps at the same station.

It undoubtedly could be done; but I doubt whether any advantage would be gained by alteration of the existing system as regards petty barrack repairs, &c., and the annual whitewashing of barrack buildings.

Yes, most profitably to the State, and advantageously to the command.

Undoubtedly, and probably more economically. Immense delay and inconvenience are often caused by the present system.

20. What is your opinion of the relative military efficiency of Bengal and Madras troops?

Major-General J. Ross, C.B.,
Commanding Presidency District.

The Bengal troops are, in my opinion, decidedly more efficient than those of Madras.

The latter seem to have degenerated much from what they were in former days. Many officers have told me that they cannot enlist the same class of recruits as they used to get.

Miscellaneous Annexures to the Replies of Officers.

No. 2128, dated Camp Ahmedabad, 29th August 1879.

From—MAJOR-GENL. J. W. SCHNEIDER, C.B., Comdg. Northern Division, Ahmedabad,
To—The Secretary, Army Organization Commission, Simla.

Referring to paragraph 4 of your letter No. 153 (Confidential), dated Simla, the 11th August 1879, I have the honor to state that I consider the efficiency of the Native army would be increased by the addition of an instructor of musketry to each regiment of infantry, if the Army Organization Commission does not recommend a considerable augmentation to the present establishment of British officers.

2. I do not mean to imply that wing-commanders take no interest in the musketry practice of their men. I know them to be regular in their attendance at the ranges, and that they do all in their power to improve the shooting in their wings, both by theoretical and practical teaching. But many of these officers are of considerable standing in the service; and it is evident there must be some among them who have no speciality for rifle practice, since tastes and inclinations vary in this direction.

3. The most competent musketry instructors in Native corps are generally those who are sportsmen; and the indifferent ones would include those who take to indoor amusements, or who have a taste for literature, music and drawing, or other pursuits, and who are not in the habit of handling arms.

4. Nothing can be more irksome to an old officer than to be required to attend daily for hours at the range superintending musketry practice; and although it is true that he receives a staff salary for the performance of this and other duties, yet it cannot always ensure proficiency in drill and exercises for which he has no aptitude. An instructor of musketry would be a valuable addition to a Native infantry regiment; and wing-commanders should exercise a general supervision over the annual practices of their companies, as majors of British corps do over their half-battalions.

Dated Simla, 30th August 1879.

From—COLONEL H. K. BURNE, C.B., Secretary to the Govt. of India, Military Dept.,
To—The Secretary, Army Organization Commission, Simla.

With reference to your letter No. 151 of the 12th instant, I beg to forward replies to certain of the questions therewith forwarded, and to express regret that the time at my disposal has not enabled me to reply more fully, or to take up all the subjects indicated.

I would add that, amongst other measures of efficiency and economy which are desirable, those which appear to me to be of great importance are—

The reorganization of the medical administrative staff, which could possibly be followed by some reduction in the executive branch of the British Medical Service; and

The consolidation of the three separate ordnance departments into one imperial service.

As regards medical staff administration, the proposals already made to Her Majesty's Government, and which are before the Commission, are almost entirely in accordance with the recommendations made by a committee, of which I was myself a member; and I have therefore nothing to add, believing the reductions proposed to be as extensive as can, at present, be conveniently carried out.

I believe the amalgamation of the ordnance departments would not only result in increased efficiency, but would also tend to considerable economy by the institution of a more direct control over demands and issues, and, by a redistribution of the circles of supply, enable some reductions to be effected in the number of arsenals and depôts and manufacturing establishments in India.

Dated Mussoorie, 28th August 1879.

From—LIEUT.-GENERAL C. T. CHAMBERLAIN, C.B., late Commanding Oudh Division,
To—The Secretary, Army Organization Commission, Simla.

It has often appeared to me that the retention of a cantonment magistrate for the station of Chikrata is an expense which might advantageously be curtailed.

It is a single battalion station which can only have need for a small regimental bazar; and most probably the magisterial work could be done by an assistant superintendent in the Dun, and the rest by the station staff officer.

Dated Mussoorie, 28th August 1879.

From—LIEUT.-GENERAL C. T. CHAMBERLAIN, C.S.I., late Commanding Oudh Division,
To—The Secretary, Army Organization Commission, Simla.

In accordance with the request contained in paragraph 4 of your confidential letter No. 156 of the 11th instant, I beg to suggest that the office of Director General, Army Remount Operations, is superfluous, as the duties are very light, and could be easily arranged for.

The allotment of horses could be left in the hands of the officer in charge of the Remount Depot, Saharanpur, if his office clerks were increased; and the returns now sent from corps and batteries to the Director General could be sent to him.

The inspections over which Colonel Couper now presides could be done by any qualified combatant officer on deputation; and I believe that the saving to Government would be about Rs. 25,000 annually.

Two letters on separate subjects accompany this.

Dated Mussoorie, 28th August 1879.

From—LIEUT.-GENERAL C. T. CHAMBERLAIN, C.S.I., late Commanding Oudh Division,
To—The Secretary, Army Organization Commission, Simla.

The regulation which sanctions three, four, and five chargers for captains, majors, and colonels of royal horse artillery and cavalry might with every advantage be rescinded.

In the Bengal cavalry, in fact in all cavalry on the irregular system, two chargers only are sanctioned; and neither in war nor peace does any branch perform harder, if as hard, work as they do.

The necessity for officers keeping so many horses causes an extra strain on the market, and in the field adds considerably to the animals and men to be fed. Moreover, as in the artillery and British cavalry regiments, horses suitable for chargers are always at hand for emergent use, it is evident that one uniform rate for the officers of the mounted branches is feasible and sufficient.

MEMORANDUM.

There are two points upon which I should wish to touch, not included in the lists of questions forwarded to me:—

1st.—The very great number of officers absent from duty with their regiments from various causes. A very short examination of the army lists as published in India for the respective presidencies will

Absence of officers from regiments.

show the excessive extent of this absence. It is not confined to the season of leave and indulgence, but is normal throughout the year; and it applies equally to British and Native corps. The establishments of British officers in both services have been reduced to a minimum for efficiency. Even supposing that all are present, yet the average condition is that about one-third are absent. It is no uncommon thing to find British regiments, for months together, with three and four companies in charge of young and totally inexperienced officers, not even dismissed from the adjutant's hands. A captain having a subaltern to assist him has almost become rather an exception than a rule. The efficiency of regiments is greatly affected by this absence of the officers. The instruction of officers in their military duties cannot be carried out to the extent that the regulations and orders of the army contemplate. And the evil is still more marked in respect of discipline. For the non-commissioned officers are much changed of late years, and are no longer the experienced steady soldiers of considerable service who formerly exercised a powerful influence in their respective grades. The presence of the officer with his regiment becomes more and more essential every year. Tactics are changing, new arms are introducing, and instruction in all its branches should be advancing. And its advance is directly dependent upon the officers as the instructors of their men.

2nd.—The second subject to which I would refer is the dissemination of the troops in almost all

Dissemination of troops in India.

divisions and districts, in numerous small outlying detachments, frequently not relieved for considerable periods. The necessity for many of these small outposts can hardly exist, now that communication in India, both by road, railway and telegraph, has been so greatly improved. All these detachments deteriorate more or less in discipline and efficiency, and are in themselves so many deductions from the power of carrying on the tactical instructions of the troops at the larger stations—a point of the utmost importance to the general service efficiency of the army.

These small detailed stations add much to the expense of the maintenance of the troops. They entail separate establishments, hospitals, &c., &c., to say nothing of visits of inspection from general and departmental officers, and the relief of the detachments themselves.

I am aware that accommodation for troops, to some extent, stands in the way of reducing these minor posts. But I believe that the advantages of concentrating the troops as much as possible in the larger stations, such as the head-quarters of divisions and districts, would, in point of discipline, instruction, and economy, outweigh any inconvenience that the first withdrawals might occasion.

H. R. BROWNE, Major-Genl.,

Commanding Sagar District.

B

BRITISH CAVALRY.

1. Would it be advisable to raise the strength of regiments of British cavalry in India to 549 rank and file, which is the English war establishment, or even higher?

Lieutenant-Colonel R. Blundell,
3rd Hussars.

It would be advisable to increase the number of rank and file as the question proposes. The number of horses should *not* be increased. The proportion of men to horses would then be such that syces would only be required for the horses ridden by the full ranks at stations where the climate is similar to that at Alhow and Ahmednagar.

I would not increase the number of troops, or the number of officers; but I would increase the present establishment by one sergeant and one corporal per troop. (The men increased as proposed above.)

If any real change is introduced, I strongly recommend the adoption of the squadron system for British cavalry. At present there are a great many—too many—horses for the men in the European cavalry regiments.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

Yes. I would recommend that the present establishment be increased to 519, which would give four squadrons instead of three, as at present, with additional complement of officers, as described in army circular, 1st December 1877. Four squadrons are more useful and practicable than three; and the increase in men would give them more nights in bed, and render the regiment better able to undergo the fatigues of a campaign.

Lieutenant-Colonel Lord R. D. Kerr,
Commanding 10th Hussars.

Unquestionably there is nothing more ruinous than "economy" in service establishment of troops at so great a distance from their recruiting depôts. The peace establishment of the 10th Hussars, after reduction at the close of the Crimean war, was 626 rank and file. The present requirements for service troops are no less. The amount of men who in the last campaign could be mustered in the 10th for a final advance on Cabul was little over 200 men; nor could we hope for drafts for four months to come. This represented the effective state for service of a British cavalry regiment after six months' residence in Afghanistan; and this residue of men was further over-weighted for effective service by the unnecessary surplus of spare horses. I recommend at least a total strength of about 600 men to an establishment of horses not exceeding 450. While on this subject, I would strongly advocate the introduction of the squadron system, so-called, tried with satisfactory results in England in the year 1860. This system was abandoned there for reasons which do not hold good in India; and if introduced, would I feel convinced, add to the economy and efficiency for service of a cavalry regiment. The more perfect and effective organization of the squadron has innumerable advantages over the troops, rendered all the more necessary by the enormous increase of clerking and interior administration which now falls on non-commissioned officers, who are neither duly trained to the work, nor able duly to carry out the various duties which fall on them. The organization of a squadron is the only sensible one for cavalry. The squadron is the unit of cavalry in the field: why not in barracks? In the squadron system there is always a second captain in reserve to take up command and one sergeant-major for drill, discipline, and duty, a second being reserved solely as quarter-master and pay-sergeant and clerk to the squadron—a most urgently necessary arrangement. The number of small units in a regiment is halved, and general economy increased. I will not enlarge on this subject.

Lieutenant-Colonel J. C. Le.
Queene, 12th Lancers.

In 1857 the 12th Lancers, being about 700 strong and disposed into 8 troops, were capable of division and serving as two complete units. Six troops an anomaly. There should not be two opinions regarding the advisability of increase.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

It seems to me that the regimental staff, establishment, and institutions would suit and suffice for a very much larger body of private men.

I have no faith in fixed numbers or such tables as those quoted.

Should recommend four strong squadrons or eight troops and a home depôt.

If the tour of service in India were curtailed, the home depôt might be dispensed with.

This question opens out many issues, and it would be tedious to discuss them in detail.

The 13th Hussars is nominally 455 strong; but deducting a ten per cent. deficiency for men on staff employ, men in hospital or in the hills, the working strength may be said to average about 415.

The greatest number ever mounted for the field during the six years the regiment has been in India was 328.

The fighting strength of the regiment may be said to be 300 sabres; but the committee may form their own opinion as to what the chances of three months' field service would reduce this total to; this varying according to distance, climate, &c., but considerable in any case.

Being absent from my regiment I cannot enter into detail as I should wish to do; but must state without hesitation that the existing arrangement is faulty, that a considerable addition to the rank and file would be most advisable, and that the present organization is elastic enough to receive them.

The normal establishment of a cavalry regiment in India is a question which the means at my command do not allow me to discuss. It would certainly be a saving if the number of cavalry regiments were reduced, and their respective strength increased.

It would be certainly most advisable to raise the strength of British cavalry regiments to the English war establishment of 519 rank and file, or 600 non-commissioned officers and men and 480 horses (not including 22 drivers and 4 draught horses allowed on the home establishment). This would admit of four large squadrons being put in the field with a sufficient margin for casualties, a large number of syces being dispensed with.

On proceeding on service the 120 dismounted men should be left at the base of operations and be mounted on horses from the reserve, to be passed on to their regiment as casualties occurred, the reserve horses being trained by them in the meantime.

I certainly think that the *minimum* strength of men of a British cavalry regiment in India should be 519, as the large amount of casualties from men "on command," from sickness, and men regimentally employed, does not leave a sufficient quantity of men to groom and mount the horses, should the services of the regiment be required. This, of course, applies more to the hot than to the cold season; but even in the latter, I think an officer commanding a regiment would find great difficulty in mounting the horses in his regiment. As regards even a "higher strength" of men, I do not consider that 600 would be too many, especially if a "regimental transport" is organized. This would also allow of "four squadrons" being placed in the field—a point of great advantage.

I think it would be advisable to raise the strength to 600 non-commissioned officers and rank and file and 480 horses.

With this establishment you would always be able to put into the field three squadrons of 150 sabres, unless your casualties were excessive.

Whatever the establishment may be, I would recommend that it should bear the same proportion of men to horses.

It is absolutely necessary in a cavalry regiment to send a certain number of dismounted men on baggage guard on the line of march on service. Very few *mounted* men are required: two per troop mounted and ten dismounted would do all that was requisite. (I am allowing 10 per cent for sick).

I would recommend then that no troop *syces* be entertained on service.

In a standing camp so many men are required for clerks, store-men, guard, provosts, &c., that you can never mount the whole of your horses; and to be actually serviceable would strongly recommend the proportion of men to horses alluded to above.

Yes; 519 rank and file, with the English complement of officers, as it would enable a regiment to have four squadrons and be more compact in the field. It would also lighten the duties of the cavalry soldier, and therefore contribute to keep him in better health and efficiency, and with the English establishment of 480 troop horses would allow 69 dismounted men, who would probably represent the sick, convalescent, and a small *dépôt* left behind on the regiment taking the field.

I consider the Indian establishment of the service troops ought to be the same as the war establishment of a British cavalry regiment.

There are at present four scales of establishment, *viz.* :—

- 1.—For regiment recently home.
- 2.—For regiments high on foreign service roster.
- 3.—For regiments on a war strength (in which no allowance is made for a *dépôt*).
- 4.—For Indian establishment, sub-divided into "service" and "dépôt" troops.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

Major J. W. Chaplin, 8th Hussars.

Major E. A. Wood, 10th Hussars.

Captain T. A. S. Mackenzie, 9th Lancers.

Captain B. A. Combe, 10th Royal Hussars, and Deputy Assistant Quarter-Master-General.

A comparative table of these four scales is appended, a close study of which will show the confusion and endless trouble that must ensue when regiments (as in the case of the 1st Dragoon Guards and 17th Lancers now at the Cape) are ordered on active service abroad with a war establishment, and subsequently transferred to India on the Indian establishment.

BRITISH CAVALRY.

Comparative Tables of Home, War, and Indian Establishments.

	HOME (a).		(b) War.	INDIAN.			REMARKS.
	No. 1 scale.	No. 2.		Service.	Depôt.	Total.	
Officers.							
Colonel ...	1	1	...	1	...	1	(a) There are two scales of home establishment, viz.— No. 1, for regiment lately home. No. 2, far regiment high on roster far service.
Lieutenant-colonel ...	1	1	1	1	...	1	
Major ...	1	1	1	1	...	1	
Captains ...	8	8	8	8	1	7	(b) No allowance made for a depot?
Subalterns ...	12	12	12	12	1	13	
Adjutant ...	1	1	1	1	...	1	
Riding-master ...	1	1	P(c)	1	...	1	(c) No riding-master on war strength?
Quarter-master ...	1	1	1	1	...	1	
Veterinary surgeon ...	1	1	1	1	...	1	
Poy-master (d) ...	P	P	1	P	...	P	(d) Poy-masters and medical officers, though not posted to regiments, are actually with regiment as "attached officers."
Medical officer (d) ...	P	P	1	P	...	P	
Total ...	27	27	21	23	2	27	
Non-commissioned Officers and Staff Sergeants.							
Regimental sergeant-major ...	1	1	1	1	...	1	(e) What becomes of the sergeant instructor in fencing? He is a staff sergeant, and cannot be sent to troop duty.
Quarter-master-sergeant ...	1	1	1	1	...	1	
Band-master ...	1	1	1	1	...	1	
Trumpet-major ...	1	1	1	1	...	1	(f) As there is a medical officer on war strength, surely he ought to have a hospital sergeant.
Pay-master sergeant ...	1	1	1	1	...	1	
Armourer sergeant ...	1	1	1	1	...	1	
Saddler sergeant ...	1	1	1	1	...	1	(g) Artificers are most necessary; their places has to be supplied by men withdrawn from the ranks, i.e., from the fighting and grooming strength.
Farrier-major ...	1	1	1	1	...	1	
Orderly-room clerk ...	1	1	1	1	...	1	
Sergeant instructor in fencing ...	1	1	P(e)	1	...	1	(h) A squadron earl should be attached to each squadron, and of least four drivers allowed, with eight or ten horses per troop broken to harness. This gives of once a good nucleus for a very efficient transport train for which the riding-master would be available as superintendent.
Sergeant cook ...	1	1	1	1	...	1	
Hospital sergeant ...	P	P	P(f)	1	...	1	
Transport sergeant ...	...	...	...	...	...	...	(i) That is, a fighting strength of 600 of all ranks, not including officers and drivers; and this should be the strength for India.
Troop sergeant-major ...	8	8	8	8	1	7	
Sergeants ...	24	24	24	24	3	27	
Farriers ...	8	8	8	8	...	6	(k) The proportion of horses in India to privates (95 to 100) is too great. Reduce the number of horses should be reduced, or the number of men increased.
Total Non-commissioned Officers ...	51	51	51	41	4	45	
Trumpeters ...	8	8	8	8	1	7	
Artificers.							
Saddlers ...	3	3	3	P(g)	1	1	(l) A few (say two per squadron cart) draught horses should be attached to the nucleus of a transport train (vide remark h).
Shoemakers ...	3	3	3	P	1	1	
Saddle-tree makers ...	1	1	2	P	...	...
Total Artificers ...	12	12	14	P	1	1	
Rank and File.							
Corporals ...	32	32	32	24	3	27	
Bandmen ...	...	...	...	...	...	...
Privates ...	400	495	453	381	53	437	
Drivers ...	...	...	...	22	(h)	...	
Total Rank and File ...	432	530	519	408	56	464	
Total Non-commissioned Officers, Artificers, Rank and File ...	603	601	622(h)	453	62	517	
Grand Total, including Officers ...	630	628	657	480	64	544	
Troop horses ...	317	379	480	456(k)	20	456	
Draught horses ...	...	...	41	(l)	...	...

At home and on the war scale a regiment has four squadrons; but on coming to India one troop is reduced and one troop goes to the depôt, or rather practically two troops are broken up and a new troop made up, for the depôt, of sick and weakly men, men who have nearly completed their service, &c. Only three squadrons are brought out, from which again, in the event of active service or a camp of exercise in India, another depôt has to be formed in India.

It would simplify matters much if a regiment were sent out with four squadrons complete, the sick and weakly old soldiers, &c., being formed into an extra or depôt troop for which a captain and subaltern might be made supernumerary in the regiment during its tour of Indian service.

If this be objected to on the ground of expense, at least care should be taken that the three squadrons are sent out strong enough to take the field in efficient numbers; but under the present system all the artificers, who are extra to the fighting strength on the home establishment, have in India to be furnished with many other working men, clerks, &c., from the ranks, so that what with sick and prisoners, regimental and troop duty men, clerks, shoemakers, saddlers, tailors, shoemakers, gardeners, hospital orderlies, canteen waiters, mess waiters, &c., more than a third of the troop are usually "employed;" and though perhaps taken on commanding officers' parades, they are, and can, not be available for stable duty.

The squadron system ought to be adopted in quarters as in the field. I believe most commanding and senior officers would be found

in favor of this system; but among its many advantages I will only mention one as bearing on the question of duties, *viz.*, that the number of men now frittered away on troop duties would be reduced by one-half.

I would suggest that the *proportion* of horses to private soldiers be reduced.

In India the present rule is one horse to every full-rank non-commissioned officer, trumpeter, and farrier; and 95 horses per 100 privates.

In England on peace establishment the proportion is one horse to every full rank, but only 55 or 56 horses per 100 privates; and on the war scale the proportion only rises to 70 per 100.

In India I should say 80 per cent. would be a fair proportion; and our present establishment of troop horses (436) would then suffice for—

71 full ranks	...	...	= 71 horses.
456 privates	...	...	= 365 "

527 non-commissioned officers, rank
and file ... = 436 "

But assuming that the Indian strength should be 600 fighting men, we should require—

71 horses for	...	...	71 full ranks.
423 " "	...	...	529 privates.
494 " "	...	...	600 all ranks.

2. With your present establishment, how many men (rank and file) and horses could you parade with for active service?

Lieutenant-Colonel R. Blandell,
3rd Hussars.

About 250 men and 400 horses. The regiment is about 141 rank and file below its establishment.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

	Men.	Horses.
At head-quarters, Sialkot	... 251	263
At Kuram ...	... 119	139
Total	... 370	402

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

Under the most perfectly advantageous circumstances of health, &c., about 410. This does not allow for more than a minimum of sick nor for unformed drafts of young soldiers, nor for young horses, or deficiency in numbers of either men or horses: it considers the regiment completely trained in both, with no requirement for a *dépôt* of any strength.

Lieutenant-Colonel J. C. Le
Queuse, 12th Lancers.

Total strength 455; ten per cent. for hospital 45=4½, other causes 18. For service about 390.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

About 320 of all ranks of non-commissioned officers and privates. Deduct non-commissioned officers 30, trumpeters 6, farriers 6, and at least 80 men unfit medically, 320—(30+6+6+30)=258. Thus 258 rank and file. These might form four squadrons; but I fancy there would remain but three to face the enemy and no *reserves of men*. This I reckon to be the outside possible under the most favorable circumstances.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

Deducting the probable number of men and horses found medically unfit for service, I could parade about 390 rank and file and 400 horses. In addition to these, there would be about 40 sergeants, farriers, trumpeters, &c.

Major J. W. Chaplin, 8th
Hussars.

At the present time, owing to a severe outbreak of malarious fever and ague, I do not think the regiment (8th Hussars) could turn out for service a greater number than 300 men, or in the cold season more than 360 men, thus leaving over 180 horses remounted in the hot, and nearly 100 in the cold season, thus proving that more *men* are wanted.

Major E. A. Wood, 10th Hussars.

I should say not more than 400 at the outside to start with from cantonments; and I much doubt that number ever being actually present on parade after leaving cantonments a couple of months.

Captain T. A. S. Mackenzie, 9th
Lancers.

	Men.	Horses.
At head-quarters, Sialkot	... 251	263
At Kuram ...	... 119	139
	370	402
The percentage of sick at the present time is ...	3.28	3.97

Captain B. A. Combe, 10th Royal
Hussars, and Deputy Assistant
Quarter-Master-General.

This would depend on many conditions—the time of year, health of the regiments, &c. &c.

When a squadron of the 10th Hussars was ordered last year to join the Kuram column, it had to be sent under 100 of all ranks. There had been a sickly season and the men from the hills had not rejoined.

The two squadrons, on the other hand, that marched later to join the Khyber column were very strong.

Under favorable circumstances, after deducting sick and weakly men, invalids of the season, men detained at the sanitarium, and a sufficient number for the dépôt, I consider an average of 60 of all ranks per troop, or a total of 360 men and horses, would be as much as could be taken into the field; and out of these again would have to be deducted casualties, regimental, troop, and camp duties, clerks and working men of sorts; so that practically you would rarely get 300 men on parade. Three squadrons of 30 files in the ranks would be a fair turn out.

8. How many officers are away from the regiment—

- (a) on medical certificate in England or India?
- (b) in England on private affairs?
- (c) staff appointments; and of these how many are seconded?
- (d) regimental dépôt or staff college?
- (e) probationers for staff corps?
- (f) garrison course?

How many officers were actually present with the regiment on the 1st August?

Lieutenant-Colonel R. Blundell,
3rd Hussars.

- (a) One in England.
 - (b) One.
 - (c) None.
 - (d) Two at the dépôt.
 - (e) One.
 - (f) One.
- Twenty.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

- (a) Three in England, one in India.
- (b) Nil.
- (c) Four, three of whom are seconded.
- (d) Two regimental dépôt (one of whom is on special duty at the Cape).
- (e) One.
- (f) Nil.

Twelve officers, including those of the Kuram squadron (seven other officers on leave in India).

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

- (a) Two.
 - (b) One.
 - (c) Three, one seconded.
 - (d) Two.
 - (e) None.
 - (f) None.
- Thirteen.

I object to so many on leave. There are eight now.

Lieutenant-Colonel J. C. Le-
quesne, 12th Lancers.

- (a) Three.
- (b) One.
- (c) Four (one staff college; one personal staff; two dépôt).
- (d) Besides this, there are two seconded in excess of establishment.
- (e) Nil.
- (f) Nil.

Twenty-one, including two *medical officers*.

Lieutenant-Colonel H. S. Butler,
10th Hussars.

- (a) Seven—
Lieutenant-Colonel Butler.
Lieutenant Spilling.
" Watson.
" Blagrove.
" Powell.
Pay-master Bernard.
Riding-master Hubbard.

- (b) Two—
Captain Cathell.
Lieutenant Freeman.

The latter sent home to avoid a medical board; is really unfit for service.

- (c) Two—
Lieutenant-Colonel Russell.
Captain Gifford.

Neither seconded.

- (d) Four at dépôt—
 Captain Peters.
 Lieutenant Brookfield.
 „ Hunt.
 „ Morris.

The two latter are raw recruits (if indeed they have joined).

(e) None.

(f) None.

Twelve; including those on privilege leave.

The regiment has been six years at Lucknow; and of course men and officers have suffered a good deal. But the officers show it more than the men, as there have been comparatively fewer removed home.

(a) In England 2 (veterinary surgeon included). In India none.

(b) Three.

(c) One, not seconded.

(d) At regimental dépôt three. Staff college none.

(e) One.

(f) None.

Twelve; but five officers on that date were on leave or on duty in the hills within easy recall.

(a) Two	... { England	...	...	...	1
	... { India	...	...	...	1
(b) Nil.					
(c) One, seconded.					
(d) Four	... { Dépôt	...	...	1	Sub- altern. 3
	... { Staff College	...	...	Nil.	
(e) Nil.					
(f) Nil.					
Colonel	...	...	...	...	1
Major	...	...	...	...	5
Captains	...	...	...	...	8
Lieutenants	...	...	...	...	1
Adjutant	...	...	...	...	1
Pay-master	...	...	...	...	1
Quarter-master	...	...	...	...	1
Veterinary surgeon	...	...	...	...	1
Riding-master	...	...	...	...	1
Total					19

Seven.

(a) One in India.

(b) One subaltern in England on private affairs.

(c) One captain and one subaltern on the staff; the captain has been seconded.

(d) One captain and one subaltern at regimental dépôt.

(e) One probationer, staff corps.

(f) None at garrison course.

I cannot say, as I was then, and still am, on leave.

(a) Three in England, one in India.

(b) Nil.

(c) Four, three of whom are seconded.

(d) Two regimental dépôt, one of whom is on special duty at the Cape.

(e) One.

(f) Nil.

Twelve officers, including those of the Kuram squadron. Seven on leave in India.

4. What reductions do you consider feasible in the establishment of followers with your regiment in peace and war?

Lieutenant-Colonel R. Blandell,
 8th Hussars.

Under the present arrangements, the only reduction that seems to me feasible is to make the men clean their own rooms, and to do away with the two sweepers per troop allowed for that purpose.

If the rank and file are increased, the number of horses remaining as at present, a large reduction in the number of syces could be made.

If green grass is got by contract, then the grass-cutters can be reduced altogether.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

Lieutenant-Colonel J. C. Le-
Quesne, 12th Lancers.

Lieutenant-Colonel H. S. Butler,
18th Hussars.

Lieutenant-Colonel G. Luck,
Commanding 16th (the King's)
Hussars.

* See app. XXIX.

Major J. W. Chaplin, 8th
Hussars.

Major E. A. Wood, 10th Hussars.

Captain T. A. S. Mackenzie, 9th
Lancers.

Captain B. A. Combe, 10th
Royal Hussars, and Deputy Assist-
ant Quarter-Master-General.

I should think none—rather more, if any thing.

In peace time none. In war time, with present relative strength in men and horses, none. Were there a great increase in the proportion of men, syces might be abolished. On service the abolition of grass-cutters would entail enormous increase of strain on the commissariat and transport departments of an army, whether in the field or quarters.

I have no followers other than grass-cutters and horse-keepers; and they are necessary.

I cannot see how this is possible; but shall be glad to study the question and report, should the Committee so wish.

It much depends on where the war is to be.

The establishment of syces and grass-cutters can be reduced, vide memorandum annexed.*

I do not think that any of the other establishments are excessive excepting that of the hospital; but it is doubtful whether that is any longer considered a regimental establishment.

Some commanding officers consider the allowance of four cooks per troop on service as excessive, and that the duties ought to be performed by the soldier. I do not agree in this, as the eyes of a European cannot stand the smoke that arises from a wood-fire in a mud *choola*.

I consider that hardly any reduction in the establishment of followers is possible—that is, if the necessity of keeping the British soldier in health is kept in view; as if called on to perform the duties he does in England in the hot season, I think he would be found incapable of performing them without great assistance.

I would not reduce the establishment of followers at all during times of peace. If a proportion of six men to four horses was the establishment, the syces I think might be abolished in times of war. The remainder of the followers to be on the same scale as the latest one in the Afghan expedition, with the exception of adding troop *dhobies* to this list.

None in time of peace

In war I think the Calcutta scale the lowest to which they could be reduced without impairing the efficiency of a regiment.

I do not consider any reductions feasible. If reductions were made, the work now done by Natives would have to be done by soldiers withdrawn from the ranks, thus lessening the fighting strength, already much too weak.

Even with the present apparently liberal allowance of syces in the hot weather, when a large (and yearly increasing) number of men are withdrawn from regiments and sent to the hill sanatoria, the extra work in the way of grooming spare horses and cleaning spare saddles falls very heavy on the duty men left with the regiment.

5. Do you consider the present mode of entertaining followers can be improved; and how?

Lieutenant-Colonel R. Blundell,
3rd Hussars.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

Lieutenant-Colonel J. C. Le-
Quesne, 12th Lancers.

Captain B. A. Combe, 10th Royal
Hussars, and Deputy Assistant
Quarter-Master-General.

I do not think that women should be entertained as grass-cutters. In this regiment three-fourths of the grass-cutters are women. I have no other fault to find with the system.

It could be improved by having a fixed establishment of syces and grass-cutters. Great inconvenience is felt by the present system of discharging men when a casualty occurs amongst the horses.

No; by leaving to heads of departments to entertain men for their respective duties, such as syces, &c., a better class of men is obtained for the purpose required.

Yes; a responsible supervisor is necessary—say an ex-Native cavalry man. At present I may take some utter ruffians and remain for a time unconscious.

No; I do not see how it can be improved; but I would suggest that more care be enjoined in the record of services of all Native followers serving for pension.

Forms of records, certificates of discharge and transfer, &c., should be published in general orders; or every man might have a small book with his name (*correctly* spelt), caste, and personal description, and troop officers should be held responsible that all transfers, &c., are duly entered in this book as well as in a general register to be kept in the orderly-room.

Owing to the various ways the names are now entered in the troop muster-rolls, occasional transfers, and the habit of allowing substitutes to serve on under the same names as those of the men (on leave) they replace, it is often difficult, if not impossible, to trace the services of old syces and grass-cutters; and in a British regiment there is not always an officer of sufficient experience and knowledge of the language to properly investigate the claims brought forward every year before the assembly of the invaliding committee; and the interests of old and deserving Native followers often suffer in consequence.

Much difficulty is now experienced in getting grass-cuts, particularly "double" ones, that is, men with a pony, for regiments in the Punjab.

With gram at 8 or 9 seers, the whole of the Rs. 4 pay goes in the feed of the pony; and either the man or the pony must starve if the pony's price has to be paid for. In the 9th Lancers and 10th Hussars this has become a serious tax on the pockets of troop officers, who for the credit of their troops often advance the money for the purchase of a pony with very little chance of recovering more than a portion, if any, of the money. This of course cannot last; and Government must be prepared to face the difficulty either by raising the pay of a "double" grass-cut, or by finding ponies. If the pay was raised, some sort of a chanda fund might be kept up under the troop officer's supervision.

I think that syces, grass-cutters, and the quarter-master's establishment should be enlisted for a term of years, with a small pension on discharge. Under the present system, with the low wages given by Government, as soon as a syce has learnt his work he leaves the regiment in order to get private service.

The present system appears to work well. I have had so little experience of India, that I am unable to suggest any improvement.

I would improve the pay of the grass-cutters (*I would abolish all single grass-cutters*), giving them Rs. 5 per month; and I would recommend that Government supply them with mules or ponies, which could also be used for regimental transport on the line of march. Government should also feed these animals.

At present, when a casualty occurs among the troop horses, the syce and grass-cutter are at once discharged; consequently, when remounts join, great difficulty is experienced in finding these men again. I am of opinion that a fixed establishment should be maintained; that the men should be enlisted and be subject to military discipline.

6. Can they be so organized in peace as to make them less dependent and defenceless in war?

Lieutenant-Colonel R. Blundell,
3rd Hussars.

I don't think that it would be worth while organizing them: their present duties occupy all their time. I think they should be armed with a light sharp sword, and told what under ordinary circumstances it would be best for them to do when attacked.

No; they are not high class, of which fighting men are made.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

As a general rule, I think not. As a general rule, the class from which Native followers (syces or grass-cuts) are taken does not produce soldiers; nor will fighting men come at the rate of wage given. In the recent campaign, armed followers seem to have but rarely used their weapons in self-defence when attacked.

Apparently they have quite enough to do, without being turned into soldiers.

Lieutenant-Colonel J. C. Le-
Quesne, 12th Lancers.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

I think not. They come from anything but the fighting races. I have known three unarmed Afghans attack four armed followers and kill them with their own swords.

Major J. W. Chaplin, 8th
Hussars.

I should say undoubtedly that they could be armed and drilled in such a manner that, under two or three good Native and one British non-commissioned officers, they could be made sufficiently formidable to repel such attacks as they appear to have been subjected to in Afghanistan.

Major E. A. Wood, 10th Hussars.

Some kind of weapon might be issued to them, and they might be instructed how to use it. This would especially apply to grass-cutters.

Captain T. A. S. Mackenzie, 9th Lancers.

If enlisted as suggested in answer 5, I am of opinion that a pensioned duffadar of cavalry should be attached to each troop, so that the followers on enlistment should be drilled and taught the use of the sword. These duffadars would be very useful in maintaining discipline among the syces.

Captain R. A. Combe, 10th Royal Hussars, and Deputy Assistant Quarter-Master-General.

As long as the present *and only available* class of men are entertained as syces and grass-cutters, they cannot ever be depended on to show fight, even in self-defence.

7. Taking the list of followers attached to your regiment in succession, state how the duties performed by them is carried on at home.

Lieutenant-Colonel R. Bindell, 3rd Hussars.

Duties of—

Native farriers	...	...	... by soldiers.
Syces	...	...	... by ditto.
Grass-cutters	..	...	... by contract, when any is given.
Lascars	...	...	... by soldiers.
Bhisties	...	...	... water is laid on.
Barrack sweepers	...	...	... by soldiers.
Chowdry	...	...	...
Bazaar peons	...	...	...
Chowkidar for hay-stacks	...	...	...
Halalcure bhisties	...	...	...
Latrine sweepers	...	...	... by soldiers.
Bildars	...	...	...
Filth-cart drivers	...	...	...

Hospital Followers.

Barber	...	...	...
Head-cook	...	...	... by army hospital corps.
Assistant-cook	...	...	... by ditto.
Bhisties	...	...	...
Sweepers	...	...	... by army hospital corps.
Ward servants	...	...	... by ditto.
Doolie-bearers	...	...	... by ditto.

Lieutenant-Colonel R. S. Cleland, 9th (Queen's Royal) Lancers.

Syces.—Stable duties performed by non-commissioned officers and men.
Grass-cutters.—Fodder supplied through the control department by contractors.

Bhisties.—Men draw and carry water for their own use.

Dholies.—Washing done by the soldiers' wives.

Sweepers.—Barrack-rooms cleaned by soldiers' wives; the barracks by soldiers where no sweeper is employed. Most regiments employ sweepers, deducting 1d. per mensem from each man's pay for wages.

Cooks.—Cooking at home is done by one man per troop told off for that purpose monthly. They are under the superintendence of a sergeant master-cook, who has to obtain a certificate from the Aldershot School of Cookery.

Khullasies.—Tents at home are under charge of the control department, and issued to the troops for marching or manœuvring. They are pitched by the troops, who are responsible for them until returned into store.

Syces.—Grooming done at home by soldiers.

Grass-cutts.—Forage supplied by control department.

Cook.—Two soldiers per troop and one sergeant cook per regiment.

Sweepers.—Soldiers, fatigues, and one or more barrack sweepers hired by the men.

Dholies.—Washing done by soldiers' wives.

Chuprassies.—By orderly duties.

Bhisties.—Water drawn by soldiers from barrack pumps and taps.

Lascars.—No camp equipment kept by regiments, but issued as required for immediate use.

Hospital establishment.—Found by army hospital corps.

The grass takes the place of hay supplied by contractors in barracks by such persons on the line of march as are compelled to billet soldiers. Cavalry at home have many less horses than men, so can easily superintend themselves.

Lieutenant-Colonel Lord R. D. Kerr, Commanding 10th Hussars.

Lieutenant-Colonel J. C. Le...
Qu... 10th Hussars.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

(a) Syces—

The work is done by the men themselves, but at home there are 150 men dismounted in each regiment, and frequently a man has two horses to look after (a double horseman). Of late years men are more idle; and when many have this extra work, desertions become frequent. Desertion is more serious to a cavalry than an infantry regiment.

In India 21 spare men.

Establishment	...	...	...	455
Horses	...	...	...	436
				21

Men cannot be expected to do the same in such a climate as that of Lucknow and to remain alive. Syces are also needed to take charge of spare horses, to take horses to water in hot weather, and for midday stables. They also do all sorts of extra work at odd times.

(b) Grass-cutters—

At home forage is done by contract, and not too well.

(c) Lascars—

The men take charge of their bell tents.

(d) Puckalis—

Water is usually laid on from water-works.

(e) Bhisties—

Barrel of water carried on march but rarely; otherwise water is everywhere.

(f) Hospital—

Army hospital corps, with soldier assistants.

(g) Saddlers—

Artificers—

Nalunds—

Done by soldiers and by occasional hired labour.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

Followers.	Duty performed by at home.	
Jemadar syces	Soldier.
Syces	Ditto.
Native farrier	Ditto.
Grass-cutters	Forage received from contractor.
Tindal	} ...	{ Quarter-master's establishment; no equivalent to this at home.
Lascars		
Puckalis		
Bhisties		
Chowdry		
Mutsuddy		
Weighman		
Sweepers	} ...	{ A few old pension- ers are generally employed to sweep up the barracks.
Bildars		

Hospital establishment.

Native writer ...	...	Hospital sergeant.
Compounders ...	...	30.
Dressers ...	...	Hospital orderly.
Shop-coolies ...	...	Ditto.
Barber ...	...	Soldier.
Cooks ...	...	Ditto.
Bhisties ...	...	Ditto.
Sweepers ...	...	Pensioners.
Coolies ...	...	{ No equivalent.
Female sweepers ...	...
Mates ...	...
Doolie-bearers ...	...

Major J. W. Chaplin, 8th
Hussars.

How performed in England—

(a) Not required in England, as there are no syces.

(b) Performed by a corporal.

(c) Farriers and shoeing-smith.

(d) By the soldiers.

(e) By contractor.

(f) No equivalent.

(g) and (h) No equivalent, tents being kept by the control.

(i) Water is generally procurable from pipes.

(j) By the soldiers.

(k) No equivalent.

(l) No equivalent.

(m) These at home are all provided for in barrack accommodation.

(n) By contract.

Captain T. A. S. Mackenzie, 9th Lancers.

Syces.—Stable duties performed by non-commissioned officers and men.

Grass-cutters.—Fodder supplied through the control department by contractors.

Bhisties.—Men draw and carry water for their own use.

Dhobies.—Washing done by soldiers' wives.

Sweepers.—Barrack-rooms cleaned by soldiers' wives; the barracks by soldiers where no sweepers are employed. Most regiments employ sweepers, deducting 1*l.* per mensem from each man for wages.

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Khullassies.—Tents at home are under charge of the control department, and issued to troops for marching or manœuvring. They are pitched by the troops, who are responsible for them until returned into store.

Captain B. A. Combe, 10th Royal Hussars, and Deputy Assistant Quarter-Master-General.

<i>Syces</i>	...	...	...	By the men themselves.
<i>Grass-cuts</i>	...	...	...	Forage by contract.
<i>Bhisties</i>	}	...	...	{ By fatigue parties of the men.
<i>Sweepers</i>				
<i>Dhobies</i>	...	...	...	Washing clothes and cleaning barrack-room by soldiers' wives.
<i>Cooks</i>	...	...	...	By the men themselves.
<i>Lascars</i>	...	...	...	Fatigue parties.
<i>Native farriers</i>	...	...	...	Shoeing-smiths.

8. Is the issue of cloth clothing for British troops necessary in all parts of India?

Lieutenant-Colonel R. Blundell, 3rd Hussars.

It is certainly necessary in the Bombay presidency—the only presidency in which I have served.

Lieutenant-Colonel R. S. Cleland, 9th (Queen's Royal) Lancers.

Yes, as there is cold weather where British cavalry regiments are stationed.

Lieutenant-Colonel Lord R. D. Kerr, Commanding 10th Hussars.

To the best of my belief, it is either for cold or wet weather which comprises a considerable portion of the year, but on a limited scale. Cloth pantaloons, however, are desirable also in the hottest season.

Lieutenant-Colonel J. C. LeQueue, 12th Lancers.

Certainly at this station it is.

Lieutenant-Colonel H. S. Butler, 13th Hussars.

Not as issued at present for the climate of Lucknow. Whole system requires looking into.

What is suitable for one part of India cannot possibly be good for another, so far as my experience goes.

Lieutenant-Colonel G. Luck, Commanding 15th Hussars.

For cavalry, yes. But the issue of tunics should be biennial, compensation being paid for the intervening years to defray the expense of white clothing.

Major J. W. Chaplin, 8th Hussars.

Possibly the issue of cloth clothing for British troops quartered in the southernmost parts of India or in Ceylon is unnecessary; but I should consider it an absolute necessity in other parts of India.

Major E. A. Wood, 10th Hussars.

Necessary in all parts of India that I have served in, *viz.*, in the Punjab and North-Western Provinces.

Captain T. S. A. Mackenzie, 9th Lancers.

The 9th Lancers since their arrival in India have only been quartered at Sialkot; and I am of opinion that cloth clothing is requisite in this part of the Punjab.

Captain B. A. Combe, 10th Royal Hussars, and Deputy Assistant Quarter-Master-General.

I have only experience of the Poona division, North-Western Provinces, Oudh, and the Punjab—in all of which cloth clothing is certainly necessary.

9. In what way can the uniform and equipment of the British army in India be improved?

Lieutenant-Colonel R. Blundell, 3rd Hussars.

The uniform might, I think, be improved by doing away with the tunic, and issuing in its place *annually* a loose fitting serge jacket—a

kind of Norfolk jacket. The officers of the Central India Horse wear the sort of jacket I mean. I would have nothing on the jacket that required *chroming*.

The equipment.—The sword, I think, should be carried in a different way ; and here, again, I would adopt the pattern worn by the Central India Horse. That is, wear the sword-belt outside the jacket, and support the weight of the sword by a belt passing over the shoulder.

The sword should be shorter and lighter, and the wearer should be able to walk comfortably with it, without having to hook up swords, or any similar arrangement, just as easily as the Native cavalry do. Its scabbard should be one that would not blunt it ; and I believe a leather scabbard is the best. I prefer plain leather belts to the present buff ones. I would do away with the sabretache.

I would recommend steel shoulder-straps, in addition to the present uniform.

By abolition of useless lace and of tight stable jackets, and substitution thereof of loose light serge jackets for fatigues and undress. This material is light, and fit for wear during the cold weather and during the rains. In place of the tunic, I should prefer a coat of the Norfolk jacket pattern, with leather waist straps ; and for service pantaloons to be made looser over the knee, and *puttees* for all dismounted duties, guards, &c., to be worn with highlows ; for mounted duties, loose pantaloons, highlows, and leather gaiters, to fasten with a catch. In place of the forage cap, which is cumbersome to carry, I should recommend a soft cap of loose texture which can be pulled over the ears in cold and bitter weather ; also a lighter pattern sword, the present one being clumsy and heavy, originally made for men of six feet and upwards, and not reduced in weight for smaller men. Abolition of the sabretache and sword-slings, and substitution of a frog for the latter. The present pouch belt is cumbersome and unsuited for Henry-Martini ammunition. I recommend that a pocket (leather) be let into the left breast of the tunic or service coat, to hold present use cartridges ; each cartridge to be let into its own groove. A further supply to be carried in a pouch on the waist-belt.

The new iron saddle is of a pattern which cannot well be improved. I recommend abolition of cruppers and breast-plates ; the disuse of the brass bosses on the saddlery, which only cause great waste, as the polishing of such bosses with brass paste rots or perishes the leather around, the rest of the article being perfectly good, serviceable. There should be a chain passed from cheek to cheek of the bit over the horse's poll, as a guard against swordcuts. The chain may easily be covered with leather to avoid glitter.

Lieutenant-Colonel J. C. Le-
Quesne, 12th Lancers.

Lieutenant-Colonel H. S. Butler,
18th Hussars.

Take the weight off the horse and carry the kit in squadron or troop carts.

This is a very difficult question, and I think that nothing like success can be arrived at without careful experiment and observation.

The helmet seems very good ; but portion of *pugree* should hang over back, to protect the spine.

I do not think there is any other article of the equipment which is not more or less undesirable. I hope that the Committee will excuse my entering into detail, which I shall be happy to do to a Sub-Committee so soon as I shall have rejoined my regiment and have access to my notes.

Lieutenant-Colonel G. Luck, Com-
manding 15th (The King's) Hus-
sars.

I would recommend that Hawkes' light helmet be substituted for the wicker one now issued. Hawkes' helmets were issued to the 15th Hussars 5½ years ago ; they have undergone all the hard usage of a campaign, and are still both serviceable and smart-looking. The great objection to wicker helmets is that they harbour bugs ; in fact, they are called bug-traps by the British soldier.

The cavalry sword is altogether too heavy and unwieldy for hussars.

The mode of carrying ball ammunition is highly objectionable on sanitary and other grounds. The weight causes great pain on the chest, especially when moving at a trot ; and the constant jolting knocks the pouches to pieces.

Major J. W. Chaplin, 8th
Hussars.

For cavalry—

The "jack boots" now issued are badly made and cut, and of inferior leather. I would suggest that they be provided for regimentally.

I believe a new pattern is likely to be soon introduced.

I would advocate each soldier being supplied with an extra pair of pantaloons instead of cloth trousers, which I would do away with, and a pair of Hessian instead of "Wellingtons."

I have always considered the present sword too heavy. I would suggest the issue of a lighter one.

I am in favor of retaining the present pipeclay belts. The gullet irons appear to open out a great deal in India. Could not steel ones be substituted?

Valises might be made lighter and smaller if a regimental transport was in force.

I would abolish tunics in India, and in place thereof give the soldier a well-cut patrol jacket of a *good* pattern, or allow him compensation to keep up another stable jacket and a suit of serge clothing.

Major E. A. Wood, 10th Hussars.

For answer to this question, see—

"Notes on Cavalry Equipment."

During the recent campaign in Afghanistan, I wrote down at different times some notes on equipment, &c., which I have now collected.

The object I have chiefly in view is to obtain for the service a "fighting dress," apart from their ordinary uniform.

I believe if this was granted, the soldier's dress would not be a bit more expensive than it is at present, while the dress for home service might be made even more handsome and attractive than it is at present.

If the "fighting dress" was made the same, or as nearly as possible the same, for all branches of the service, much expense would be saved; and in war the facility of supplies of fresh kit and clothing would be greatly increased.

Something apparently is wanted to make the uniform at present worn in India fit for campaigning in that or in neighbouring countries, as during this last campaign in Cabul, as soon as the frontier was crossed, there was scarcely a regiment of the European troops clothed in its ordinary regulation kit or dress.

Khaki was the predominant color, but of various shades and hues. Officers of mounted branches and staff appeared to please themselves as regards the equipment of nether limbs. Some wore boots, some gaiters, some *puttees*, some trousers and shoes. In fact, there was a very great want of uniformity in all branches of the service.

I also think it would be a good thing if not only was a proper dress for all branches to be determined on for campaigning purposes, but that there should also be an officer's *kit* of uniform pattern, and also a tent and camp equipage, which should be strictly conformed to by all branches of the service.

Dress.

I would recommend for service a totally different dress from the one the soldiers would wear in England.

There let the soldier be comfortably but attractively clad. A handsome uniform gains to the service many a recruit.

There is no reason why the same kind of service dress and kit should not be assimilated, as closely as possible to all branches of the service.

At home the service kit would only be issued to troops on their receiving the orders to hold themselves in readiness for active service. The dress for home service would then be taken into store, with such articles of kit as were not absolutely essential on active service.

In India I should like to see the service *kit* kept apart from that usually worn in times of peace, but in possession of the soldier.

In India regiments do not change their stations nearly as often as in England. Therefore there would be no objection to issuing the service kit to soldiers proceeding to India during times of peace.

The articles of service kit which did not form part of the regular kit would always be shown at inspections of necessaries; and in India would be far better in the keeping of the soldier than in stores, where whole cases of clothing, &c., are frequently destroyed by white-ants, &c.

Helmet.

I believe it has already been determined at home to issue a *helmet* to all regiments proceeding on active service, and would therefore recommend the same as issued at present, with the addition of a khaki cover for India.

Blouse or Coat.

I think there is no pattern more comfortable or serviceable than the "Norfolk jacket," with pockets in the breast as well as on the skirts (all pockets to have a flap to button over the pocket), and a broad band of the same material as the blouse, to be worn inside the blouse round the waist, stitched to the blouse. The cuff should be turned back with a slit, so that it could be pulled down over the hands in cold weather. There should be shoulder straps on the blouses, on which in each regiment the number should be plainly and firmly sewn.

I would recommend the material to be made of cloth or serge, color red for European, and khaki for Indian service. Inside the blouse should be stitched from the collar to the elbow of each arm a piece of chain sewn on leather. This is a great protection; and if properly made and fastened inside the coat, the wearer need scarcely be conscious of having it on.

The Norfolk jacket should be made loose enough to permit of a *waistcoat* with *sleeves* of some strong warm material being worn under it. This, however, would only be issued to troops proceeding to an exceptionally cold climate, where extra warm gloves and socks should also be issued.

There should be a roll collar to the Norfolk jacket about two inches in depth. The collar to be fastened loosely by hook and eye. In severe weather the collar could be turned up.

Pantaloon.

The same as now issued; only for cavalry the pantaloons should be made looser over the thigh.

For India, however, I would recommend khaki color, without any lace.

Material should be cotton cord or corduroy, with strapping of some material for cavalry inside the knee.

This material washes well and does not shrink, dries quickly, and, when drawers are worn underneath, would be warm enough even in winter.

For infantry, trousers might be substituted for pantaloons, and worn with gaiters for European service, and cloth bandages (*puttees*) fastened with strings for Indian service.

Boots.

Opinions are so much divided on this point, and it is so very difficult to get a boot that is both comfortable and slightly for *both* cavalry and infantry, that I hardly think the two branches can be dressed alike in this respect, unless a gaiter and boot combined is introduced; and to this there will be many objections on account of the difficulty of obtaining *neatness* when the boots have to be made *wholesale*. True it is that a London bootmaker could turn out a gaiter and boot combined to fit any individual; but gaiter boots bought or constructed in sizes would be most difficult to fit accurately.

Still, if it were possible, the economy in the end to Government would be so great, that I think it would be well worth an experiment.

I propose a gaiter and boot combined on the principle shown in the drawing,* with moderately thick soles. The gaiter, which would be inseparable from the boot, should be laced over a "tongue" from the lower part of the instep, half-way up the leg, and then to fasten round the top with strap and buckle, just above the swell of the calf.

There is a gaiter boot now made which might be approved of as suitable both to cavalry and infantry. For cavalry there should be a rest for the spur above the heel.

Still for active service in India I am not sure that long boots or gaiters might not be dispensed with altogether, and highlows and bandages (*puttees*) issued alike both to cavalry and infantry. There is, however, one disadvantage with these *puttees*. Unless they are very carefully fastened by the string at the top above the swell at the calf of the leg, they are apt to work down when men are riding in the ranks.

Since writing the above I have been shown a boot and gaiter which to me appears more suited to every branch of the service than any other.

The boot is the ordinary highlow as at present issued.

The gaiter is like a Hessian boot without a foot to it.

The gaiter is drawn on over the trouser, pantaloons, or breeches before the highlow is put on.

It is secured from turning round by a loop in front and in rear (inside the gaiter), which is fastened to a corresponding button on the pantaloons.

At point A a spur rest is strongly stitched; and at B a small piece of leather B of same thickness as gaiter is also sewn.

The spur strap fastens across and just above this.

These two pieces of leather A and B prevent all possibility of the gaiter rucking up; and of course may be dispensed with for the dismounted branches of the service.

This gaiter was shown to me by Colonel MacGregor, Deputy Quarter-Master-General in India, who informs me that he has both walked and ridden many miles in them, and has used them for years without ever experiencing any difficulty in drawing them on, even when wet.

Care should be taken in making these gaiters that they are sufficiently cut down in the rear at point C to admit of their being raised sufficiently high so as to admit of the highlow being put on without any difficulty. The great advantage of these gaiters are that there are no buttons or loops outside, which are so liable to be rubbed or torn off when riding in the ranks.

For cavalry, a thin steel bar might be inserted in the leather down the outside of each leg. This would be great protection to the man, and help to preserve the shape of the gaiter, in the same manner that "jacking" does the long boot.

The true secret of making highlows comfortable to wear is to soak them in oil for twenty-four or forty-eight hours, both *inside* and *out*. That once done thoroughly, a very little grease or oil from time to time keeps the leather quite soft and the seams from giving way. It is astonishing how long boots will last, if properly taken care of; and with *two pairs* of highlows it is not a very difficult matter to keep them in order.

Constant attention of the troop officers to see that non-commissioned officers in charge of squads do their duty in frequently inspecting the kits of the men of their squad is the real secret of men having their boots and clothing in proper order.

The Sword.

The latest cavalry sword issued is excellent in pattern, but is too heavy.

Now I do not know of any reason to prevent its being made much lighter.

Surely the swords issued are made of the BEST steel.

I propose that the sword should still retain its shape, length and pattern, but should be very much lighter.

The steel scabbard at present in use is much too heavy.

In times of peace the wooden lining gets worn by the sword being returned after drawing. The young soldier finds suddenly that he cannot return his sword owing to the wooden lining becoming detached, and on his return to quarters is recommended by his older comrades to take out the wooden lining altogether, assigning as a reason that the wood frequently gets damp and makes the sword blade harder to keep bright. The wooden lining in the old pattern scabbards not coming up to the top of the scabbard, it was not easy to detect whether the wooden lining was in the scabbard or not.

The regiment is suddenly ordered on service, swords are sharpened, and at the end of a few marches they are found to be blunted, simply from being loose in the scabbards.

In India the Native cavalry regiments use wooden scabbards covered with leather; and this keeps the sword sharp. The Native cavalry sword, however, is of a different pattern to that used by European cavalry, and moreover is hung in a frog.

During the Afghan campaign the 10th Hussars had a squadron detached with the Kuram valley division.

* Not published.

This squadron was supplied with wooden scabbards covered with leather, and their swords were suspended in a frog.

On this squadron rejoining the head-quarters of the regiment at Jellalabad some three months afterwards, the swords were found to be as sharp as the day they were sharpened before using the wooden scabbards.

The wooden scabbards, however, even in that short space of time, were found to be much worn, especially at the end, and where they had come in contact with the spur, so much so that it was found necessary to cast them all and revert to the plan adopted by the other two squadrons of the regiment at head-quarters with the Peshawar Field Force.

These two squadrons covered their steel scabbards with leather, took out the lower ring of the scabbard, fastened it to the leather work opposite the top ring of scabbard, to which the short carriage of sword sling was attached, shortened the long carriage of sword-belt, and fastened it to the top ring of scabbards as per drawing. This plan answered fairly well; there was no glitter or jingle, as great care had been taken to see that all the scabbards were fitted with the wooden lining; and as the swords were only drawn on very few cases, the edge of the sword was kept sharp.

I would suggest for service a much lighter steel scabbard than that issued at present, covered with leather to avoid glitter or noise, and with wooden lining of pattern of latest issue.

Great care should be taken in fitting the wooden lining into the scabbard. Frequently the wooden lining does not come up sufficiently high into the locket, which is a piece of iron or steel inserted into the top of the scabbard with a kind of mouthpiece braised on to it. This is secured to the scabbard by two little screws on each side, and is necessary to enable the wooden lining to be removed (but only by the armorer) for the purpose of repairs or drying.

If the wooden lining (as unfortunately frequently occurs) does not come up sufficiently high into the locket when the sword is drawn about three parts out of the scabbard, the edge of the sword comes in contact with the mouth or some part of the locket, and consequently gets blunted.

I would also suggest that the scabbard be fastened to the saddle in a frog when mounted and not to the waist-belt (see paragraph on the carbine). Should, however, it be deemed necessary to attach the sword to the soldier's person, it should be carried in a frog, or as shown in the drawing.

The cavalry sword is not an effective weapon for offence or defence when used dismounted, and for dismounted purposes, when ammunition was expended, a knife bayonet, as shown in the drawing, fixed to the carbine, would be a much more effective weapon.

Bayonet knife.

I would propose a strong knife of pattern shown in drawing, blade not longer than 6 inches, or broader than 2 inches at hilt, with a fitting in the handle like the *sword bayonet* to fasten on to the carbine in cases of emergency. The knife would be carried on waist-belt between the cartridge cases on the left side.

Carbine.

The present Henry-Martini carbine is an excellent weapon; and I think cannot be improved upon, unless the plan invented by the late Captain J. Mure, 34th Regiment, Deputy Assistant Adjutant-General for Musketry in India, should prove a success. This consists of adding a piece by means of a bayonet fitting to the barrel of the cavalry carbine, whereby the weapon is made identical with that used by the infantry.

It is the opinion I know of many distinguished officers that as the carbine is a weapon that can only be used on foot, it should be attached to the person of the soldier and not to the horse. I have heard of and seen many ways of carrying it on the soldier; but to me no plan seems better than that mentioned in "Modern Tactics of the Three Arms" by General M. W. Smith, page 300, in which the writer says:—

"Admitting that it is most desirable that the firearm should be attached to the rider and not to the saddle, it has always appeared to me that the way to carry it is attached to the waist-belt.

"Having come to the conclusion that the firearm should be attached to the man, and not to the saddle in action, and that being attached to the waist-belt seems to present less advantages than any other mode of carrying it, I turned my attention to obviating as much as possible the disadvantages just mentioned. A cavalry man ought to be able to mount and dismount quickly, with his arms attached, without awkwardness or difficulty. He ought to be able to get at his firearm, and bring it into action as quickly, if not more quickly, than his sword. The waist and hip should be relieved as much as possible of the weight of the carbine, even in action. That is, when the men are formed *en bataille*, and when marching at ease, there should be a mode of attaching it centrally (not at one side) to the forepart of the saddle, but so that in a second, when the order to form is given, the carbine should be re-attached to the waist-belt.

"In order to meet these requirements, I should propose that the carbine should be supported by a steel loop or bar on the stock, by means of which it can be attached to a hook placed at a certain angle on a double steel plate, through which the waist-belts of the present pattern can be passed. The jerking motion produced by the action of the horse in trotting, galloping, or leaping is more or less on a line vertical to the surface of the ground; and although this movement would jerk the carbine off a hook placed in the usual manner straight up and down on the waist-belt, unless retained by a stay-strap, when the hook is placed at an angle upon the plate greater than the angle formed with the horizontal line by any line of motion upon which the action of the horse could cause the bar of the carbine to work, the carbine will remain attached to the hook under all circumstances without a stay-strap. I have tested this in every possible way; and it must be obvious that the movement of the horse only drives the bar against the hook without detaching it. So far nothing more has been done than altering the angle of the hook and attaching it to a double steel-plate, through which the belt is run; and having no stay-strap to unbuckle or unbutton, it will be evident that the action of attaching and detaching the carbine will be instantaneous, and being attached to the hook by a fixed bar instead of a sliding ring, it can be attached or detached by a feeling of the hand without the necessity of looking down.

"In order to relieve the waist and hips as much as possible from the weight of the carbine, and also to enable a man to mount and dismount without difficulty with his firearms, a small circular spring is attached just above the knee of the right leg, into which the barrel of the carbine can be inserted by a single quick motion of the right hand before mounting, detached when mounted in a moment from both hook and spring in order to bring the carbine into action, and attached again as rapidly; and this can be done with ease when the horse is at speed. If the men wear overalls, it would be necessary to attach the spring by a small strap, or by some other means which might be devised. But if boots should be substituted for overalls, and the boots should be made to form a defence to the leg by having them made with a small thin bar of steel running the length of the leg of the boot, the bar could be attached inside the leather without in any way altering the appearance of the boot; and in this case the small spring could be fastened to the top of the bar of the right boot, which would bring it exactly into its right place when the man is mounted.

"The spring could be easily fastened to the bar, and unfastened again by a simple screw; but the spring is so small, that it would not attract attention when the man was dismounted, even if left attached to the boot.

"By placing the barrel in the spring as described, a certain portion of the weight, when the man is mounted, is borne by the stirrup, which consequently relieves the waist; and the carbine is also further secured from any possibility of becoming detached by the motion of the horse, and is also in a position which enables the man to attach and detach it in a moment. In the case of the horse falling flat on his side, which is not a very likely casualty to occur, the barrel being forward on the knee, would fall clear of the man's leg; and the stock is in the hollow between the hip and the ribs. When carried in the carbine bucket, in the event of a similar accident there would be a probability of the man's thigh-bone being broken; and it would be impossible to equip a man so as to provide altogether against his being injured in case of accidents.

"The spring is perfectly simple and strong in construction, not in the least likely to break or get out of order. Even if the spring, which is contained within the ring, should break or fail, which is almost impossible, it would be replaced by another in a few minutes. Half-a-dozen spare springs could be easily carried in the pocket, or two or three of the rings might be carried by each man if necessary.

"When marching at ease, or when there is no immediate prospect of action of any kind, it might be desirable to relieve the man of the weight of the carbine altogether by attaching it temporarily to the saddle, with the power of resuming it again at a moment's notice. But this matter belongs more especially to the arrangements of the saddle."

Pouch belt.

Should, however, the present method of carrying the carbine on the horse be considered preferable, I would anyhow suggest that the present belt and pouch be abolished, and that the cartridges be carried in a belt over the left shoulder as per drawing. The ends of the belt are here fastened together by two studs, and the cartridges inserted into separate leather compartments.

Forty cartridges carried in this manner on a belt of the description proposed weigh with the belt nearly 2 lbs. less than the same number of cartridges carried in the pouch with its belt of present pattern.

In the pouch of present pattern the cartridges run the risk of being considerably damaged when once loosened from their paper packing. In fact, the present pouch is not adapted in any way for the safe carriage of the ammunition for the Henry-Martini carbine.

The brass buckle and slide of the pouch belt are also very conspicuous by the glitter. I have distinguished at a great distance small bodies of cavalry dressed in khaki that would not have been noticed at all had it not been for the glitter of the buckles of the pouch belts.

Saddle.

The latest pattern cavalry saddle is a good one in many respects. It has, however, one disadvantage, *viz.*, that of weight. I cannot but think that it might be lightened a good deal. I apprehend that in all future campaigns the valise will rarely, if ever, be carried on the horse, but will be carried with the tents, the soldier being able to carry in his vallets all that he would require till tents could be brought up.

If employed in reconnoitring duties a considerable distance to the front, the soldier will rarely have time or opportunity to change his clothes. Everything should then be sacrificed for lightness.

Could it once be definitely settled that the kit now carried in the valise be carried in a bag or case with the tents and baggage, I am confident that the weight of the saddle might be materially diminished.

Cruppers.

Anyhow I would be glad to see cruppers dispensed with. I have for many years doubted the utility of the crupper. Should it be sufficiently tight to be of any use in retaining the saddle in its proper place, it is pretty nearly certain to produce a sore under the horse's tail. I have seen the experiment repeatedly tried of leaving off cruppers as a temporary measure, and with great success.

In England, where by far the majority of the cavalry are mounted on mares, the abolition of the crupper would, I am certain, be hailed as an immense boon. I have seen scores of horses that were most unruly and troublesome in the ranks go perfectly quietly as soon as the crupper was removed. Our forefathers, I believe, used cruppers in the hunting field, presuming, I suppose, they were of some use. Such a thing now is never even *seen* in the hunting field, or anywhere else; and I do not see why the cavalry should still be compelled to wear so useless and unseemly an appendage to their saddlery.

Breast-plate.

With the breast-plate it is different. With some horses it is a necessary evil.

With some light middle horses, and even with some others when in very low condition, on ascending a hill the saddle would slip right back over their tails, if it were not for the breast-plate. But surely it is not necessary for every horse to be compelled to wear one?

There are unfortunately many horses in our ranks whose shape and action are such as to render a breast-plate a very unnecessary appendage to their saddlery.

I would therefore recommend that breast-plates be only worn by those horses who absolutely require them. A few spare ones could always be carried among the troop stores.

Girths.

In the same way with girths, there are many horses who invariably gall with the regulation girth. Many troop officers provide others for them at their own expense, adopting in many cases a girth known as the "Cape girth." I would most urgently recommend that a little more latitude be granted to commanding and troop officers in this respect, and that there should be girths of the description mentioned or even web girths supplied on indent to those horses whose natural configuration renders the regulation girth almost useless.

I should, however, like to see the girth known as the Cape girth generally supplied. I have used them for years, and have found them answer when all others had failed. The great merit of them is that they need never be drawn as *tight* as other girths. The evils of drawing the girths too tight are so well known to every one who has ever studied the subject, that it is unnecessary to dwell upon that unfortunately too frequent an abuse. So firm a believer am I in the efficacy of these Cape girths (as shown in drawing), that I am convinced if the saddle-tree is properly fitted to the horse, and this description of girth used, both crupper and breast-plate might be altogether dispensed with.

I particularly mention the SADDLE-TREE, as in the fitting of that lies the whole secret of fitting a saddle.

Bridle.

The bridle also is good in pattern, but might be lightened. The reins frequently are unnecessarily thick; and the bit might be made tighter and narrower.

Pegs, head and heel ropes.

Pegs should be made of iron. Wooden ones are soon broken on hard ground, and in some countries, like Afghanistan for instance, they are not easy to replace.

Head and heel ropes are frequently issued of an unnecessary length.

The 10th Hussars found during the campaign in Afghanistan that the head collars broke so repeatedly, that they adopted the plan of picquetting their horses by one foreleg to an iron peg 18 inches long, weighing 2 lbs. 7 oz. Two feet of rope from the foreleg to the peg was quite sufficient plan.

The rope was tied round the leg just above the horse's foot with a knot that would not slip or jam; and this plan of picquetting was found to be the only successful one where the soil was sandy.

One hind-leg was fastened by the ordinary heel rope to an iron peg of same weight and dimensions as that to which the foreleg was secured; 6 feet of rope is sufficient for this.

I may add that no shackles, except in very few cases, were used to the foreleg; and yet the rope never appeared to gall or rub the horse's pastern.

Blanket.

It was found necessary also to carry one blanket on the horse.

The blanket was divided in half—in fact making two light blankets of it.

One-half was folded in four and placed under the saddle; the other half was folded behind the saddle, and the iron pegs secured to the top by the baggage straps. This plan was found to answer admirably; and I would strongly urge its general adoption, as, putting aside the desirability of always having a blanket at hand for the use of either man or horse, it will be the means of avoiding many a gall, which is so likely to occur in service, when horses have to be saddled, if not mounted, for so many hours.

Water-bottles.

There can be no doubt about water-bottles now issued to cavalry being a failure. They are too cumbersome; and are so easily damaged, that they soon become unserviceable. Unless they are slung so high under the arm so as to be uncomfortable to the soldier, the bottom of the bottle (glass inside leather) comes in contact with the hilt of the sword or butt of the carbine, and cracks. The water-bottle I would strongly recommend is made of *ebonite*, covered with felt or *umnah*. This is light, keeps water cool longer than any other sort, and is broken only with great difficulty. The original cost, 8s., makes it expensive; but were the whole of the troops to be provided with them, they could be made much cheaper, and would certainly prove cheaper in the end than the present pattern. They should be hollowed to fit the body.

Havresack.

The havresack at present issued might be much improved. I would recommend for all branches, but certainly for cavalry, a different pattern. The havresack should be shallower than the present pattern, with a division or extra flap to be made of some water-proof material, and strapped with leather at bottom and corners.

There should be loops or buckles at each end of top of havresack, so that it could be carried on the horse as easily as on the man's body.

Tents.

In the Cabul campaign the whole of the army was provided with tents of the sepoy pattern.

These were difficult to pack on mules, cold in winter and hot in summer. I would propose for service a tent of proportions shown in accompanying sketch.

Each tent holds a non-commissioned officer and three men or four men with their kits and saddles. The rear side unlaces, and can be removed so that any number could be laced together if required. The outer fly reaches to the ground; and in severe weather would afford shelter to troop syces, thereby doing away with the necessity of tents for them.

These tents being small, could be pitched in rear of the horses-like the Native sowars' tents. The rear side of the tent affording protection for saddlery, it does away with the necessity of paulins for saddlery, whilst the actual weight of the tent is very little more per man than the sepoy pāl.

The weight of the sepoy pāl is at least 500 lbs., roughly speaking.

18 sepoy pāls	...	...	9,000	regiment on service), you would require, at the allowance
1 guard tent	...	...	500	of 22 men to a tent, a total weight of tentage of
6 paulins, at 250	...	...	1,500	9,000 lbs. To this you must add guard tent 500 lbs.,
			<u>11,000</u>	and paulins for saddlery, which would at least come to
				250 lbs. per troop; and that is very much under the weight.
				This increases the weight of tentage to 11,000 lbs.

The tent I propose would weigh 100 lbs.

To cover the same number of men with 400 of these tents, you would require a weight of tentage of only 10,600 lbs.

That includes 600 lbs. for tents for guard purposes, &c.; and it is very questionable whether these would really be required.

The allowance of 5 per cent. for sick would be sufficient to give the extra accommodation required for guard, &c., as each troop would be easily able to afford one of these tents for guard purposes. These might be ranged side by side, or laced together, at the discretion of the commanding officer. These tents would be warmer in winter and cooler in summer than the ordinary sepoy pāl. They are more easily pitched and are easily packed on mules.

The men have their saddlery at their heads, ready to turn out at a moment's notice; and in them the comfort of the men is materially increased.

They have also the great advantage of being perfectly water-tight.

I do not mean to say that I would suggest their use in the plains of India in the hot weather; but I have no hesitation in saying that they would afford much more protection than the sepoy pāl tent, in whatever climate they might be used.

In the sketches attached to this paragraph, numbered plates 1, 2, 3 and 4—

Plate 1 represents the side-view of tent pitched complete with outer fly.

Plate 2 shows dimensions of tent.

Plate 3 ground plan of tent; kit bags to form pillow with blankets and water-proof sheet; saddles at head of each bed with long boots by the side.

Plate 4 shows front elevation.

These tents should be made of drill; the inner fly double cloth lined with blanket.

Two pockets on each side of tent above the wall. Walls to roll up all round and fasten with loops and wooden buttons at AA during the day. The poles of the tent are each 8 feet long, jointed in the centre with a slide to secure the ends of joints. This enables them to be packed with greater ease on mules and ponies.

Cooking-pots.

The cooking-pots (degchies at present) used by European regiments are much too large and cumbersome for service. They are very heavy and difficult to pack.

I would suggest a Warren's cooking-pot for every four men. Round, size 9 inches diameter, weight 4 lbs. without small canisters inside.

Inside the pot can be fitted small tins to contain pepper, salt, tea, &c. One of these tins might be perforated with holes. This tin being filled with tea and immersed in boiling water, would make tea of a better description than that at present used by the troops, which is all boiled in one large pot or degchie. These small tins having flat tops, would be constructed so as to fill half the depth of the inner pot of Warren's cooking-pot. The remaining half might be left for any rations that had not been consumed.

The economy of Warren's cooking-pots is very great. The size proposed ostensibly for four men will cook in reality for six or more.

Should the tent of the pattern described in preceding paragraph be adopted, the troops could be broken up into messes of four; and for this the Warren's cooking-pot would be found most convenient.

The present weight allowed for a troop or company's cooking-pots is 250 lbs.; making 1,500 lbs. for a cavalry regiment of 400 men. The weight of a Warren's cooking-pot is 4 lbs.; add to this 1 lb. for the small tins to fit inside.

This at the rate of one to every four men would give a total weight of 500 lbs.; of cooking utensils for the regiment, thereby saving 1,000 lbs. weight for carriage, and giving also much more comfort to the men, small messes being always better cooked than very large ones. Anyhow, should it be deemed preferable to adhere to the present system, I would most strongly urge that the Indian copper degchie be abolished, and that cooking-pots of block tin be adopted, being very much lighter than copper and not requiring to be constantly tinned, which is often a matter of great difficulty on service.

Captain T. S. A. MacKenzie, 9th
Lancers.

With the present equipment a lancer is overarmed. I would suggest that a certain percentage of men should carry the carbine, say, 64 carbines per regiment, and not arm the whole regiment with carbines as at present. I would also suggest that steel shoulder-straps be worn in place of the present shoulder-cords; also that the material for the men's pantaloons should be of some elastic material, say, Bedford cord. It would no doubt be more expensive than the present pantaloons; but it would last twice as long, and enable the cavalry soldier to have much more freedom, mounted and dismounted.

Captain B. A. Combe, 10th
Royal Hussars, and Deputy Assistant
Quarter-Master-General.

A practical answer to this question is what took place lately when regiments were ordered on field service.

Taking my own regiment, 10th Royal Hussars, as an instance, we changed or discarded almost everything regulation—

Stable jackets and valises were discarded and left behind.

Tunics were only taken as an article of extra clothing, to be worn under the blouse when necessary. An extra flannel shirt or cardigan waistcoat would have been a better substitute.

A blue serge or khaki blouse was invariably worn, as being the most comfortable and serviceable, admitting of free use of the arms, and of as much or as little underclothing as might be necessary.

The steel scabbards were changed for wooden ones, the swords belts altered, long slings abolished, and a sort of "Sam Browne" belt improvised; sabretaches were discarded.

The Government pouches were found unsuitable for carriage of loose rounds of ball ammunition, ten rounds of which were carried in pockets of five compartments each, sewn on the breast of the blouse.

In addition to the long boots, every man was served out with a pair of *puttees*, or cloth bandages for leggings, which, with pantaloons and highlows or ammunition boots, formed the best dress for hill climbing and dismounted duties.

There must always be a full or "show" dress for parades, escort duty, &c., &c.; but the working or fighting dress should be plain and serviceable, so that all these changes, on being ordered on service, would be obviated. Some generals would object to Her Majesty's Dress Regulations being ignored even on service, and the consequence would be that the efficiency of a regiment so restricted to dress regulation would be much impaired.

10. Would you recommend the issue of a serviceable suit of clothing made of a cheap and durable material to be worn on service in the field, instead of the present uniform?

Lieutenant-Colonel R. Blandell,
3rd Hussars.

Most decidedly. The color of the present clothing is too dark, and the clothing itself too thick and warm. Nobody going out into the jungles would think of wearing anything like our present uniform, either in color or texture.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

Yes; but I fear a cheap suit would not be economy.

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

Unquestionably; the khaki jackets were found universally useful and serviceable during the late campaign. It is fit for wear in all weathers and seasons, and is a great saving to the uniform of the soldiers. Alone it is insufficient, however, in cold weather, but admits of thick under-clothing.

I should never recommend cavalry to be served with any sort of khaki or other service dress without a strong broad leather waist-belt.

Lieutenant-Colonel J. C. Le.
Quesne, 12th Lancers.

No; if the present uniform is unsuitable, cast it; if it be good, it should be sufficient. If you provide a fanciful suit, it will either remain in store and spoil, or the men having it are sure to wear it and interfere with uniformity.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

Most certainly loose and with plenty of pockets.

Lieutenant-Colonel G. Luck,
Commanding 16th Hussars.

I would recommend the issue of yarn-dyed *khaki* to be made up regimentally into service suits, to be worn either over the uniform or instead of it. Coats and helmet covers would only be required for the mounted branches.

Major J. W. Chaplin, 8th
Hussars.

I would certainly recommend this, if the material was sufficiently good and suitable for the season of the year in which the troops are likely to be engaged.

Major E. A. Wood, 10th Hussars.

Most undoubtedly khaki serge blouse or Norfolk jackets, and cotton cord (corduroy) trousers or pantaloons for all branches of the service; in fact, a complete service kit independently of the ordinary kit to be always in possession of the soldier, and to be shown at all inspections of necessities.

The ordinary kit to be taken into store as soon as the regiment receives orders to hold itself in readiness for active service.

Captain T. S. A. Mackenzie, 5th
Lancers.

Yes; a loose, drab-colored serge coat or jacket, and pantaloons of the same color, but of an elastic material.

Captain B. A. Coombe, 10th
Royal Hussars, and Deputy As-
sistant Quarter-Master-General.

If by this, a "special issue" is meant, to be made when a regiment is warned for service, no; but the *ordinary* working dress should be of a cheap and durable material, so that a regiment could take the field at any moment with a "serviceable" suit.

11. Can you suggest any economy in such matters as lighting of barracks, punkha-pulling, barrack furniture, bedding, &c., or in any other item of supply ?

Lieutenant-Colonel R. Blundell,
3rd Hussars.

Speaking for this station, Mhow, the men of my regiment say they do not care for the punkhas in the barrack-rooms. I cannot suggest any economy in these matters. Perhaps a cheaper oil might be used in lighting.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

The bedding might be improved by supplying a coir mattress instead of the present one. I do not think there could be any improvement made in the other items of supply.

Lieutenant-Colonel Lord R. D. Kerr, Commanding 10th Hussars.

Lighting barracks.—Introduction of kerosine oil ; Native oil is a failure, and gives no light ; and the supply of gas is very costly in the original outlay, and uncertain when in use.

Punkha-pulling.—No economy is practicable in this matter short of abolition of punkhas, the scale being already reduced beneath the requirements for efficient action.

I do not believe that machinery for this purpose would answer.

Bedding.—No economy is practicable. The present pattern of grass-filled mattresses combines the requirements of cleanliness, economy, and safety from infection.

Lieutenant-Colonel J. C. Le-Quecne, 12th Lancers.

The present lighting of barracks is extremely bad, and only a dim flicker illumines a room. To me it appears the only economy that could be displayed would be to give none at all. Punkha-pulling by day might in some stations (to wit this) be dispensed with.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

Not at the present moment.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

Station boards generally decide the number of lights required for each barrack-room, and are liberal in their recommendations.

Punkha establishments are reduced as low as possible.

No reductions can be made in the barrack furniture ; but I think that the highly-paid barrack-master, in some cases a lieutenant-colonel in the army, might be dispensed with, and his work efficiently performed by a warrant officer, acting under the orders of the quartermaster-general of the division or district.

Bedding should be issued to the soldier when required, not, as at present, at stated intervals. Government is too liberal in this matter.

As regards other articles of supply, I think that immense reductions can be made in all articles supplied by the public works and commissariat departments. The prices paid by these departments are perfectly absurd when compared with the current bazaar rates for work done or articles supplied. At Meerut I can buy at a much cheaper rate far better articles than those supplied by the commissariat ; and this not only at one season, but throughout the whole year ; and I can get work equally well done as that performed by the public works department and at a much cheaper rate.

Every soldier, no matter what his rank, who has served any time in India knows that the great expense of the British army in this country is caused by these two overgrown departments ; and that it is to them that the attention of the economist should be directed, not to the combatant branches.

Major J. W. Chaplin, 8th Hussars.

I can suggest no economy in lighting of barracks, and certainly not in punkha-pulling, at least from what has come under my own observation.

Nor also in barrack furniture and bedding ; and I think all the items of supply are necessary.

Major E. A. Wood, 10th Hussars.

I think in some stations, especially in Central India and in the North-Western Provinces, the allowance of oil for lighting the barracks during the hot-weather months only might be curtailed, for this reason :—

The number of lights that are required to light the barracks properly make the rooms so hot, that the men would rather (and generally do) deprive themselves of the proper quantity of light sooner than incur the extra heat caused by the number of oil-lamps.

As regards punkha-pulling, the punkhas in most barracks are so heavy, that it requires a considerable amount of strength to pull them properly.

I do not think that either the State or the soldier are well served by the system of contract for punkha-coolies.

The manual labor is by the system of contract reduced to the utmost strength of the punkha-coolies.

Many of these are not able-bodied men. Thefts frequently occur during the time that the punkha-coolies are employed; and I believe that much cost might be saved to the State if some *mechanical means* might be introduced, so as to avoid the employment of punkha-coolies.

This might be accomplished in favorable stations by hydraulic machinery, and in others by steam-power, both of which might be used with advantage for gram-grinding, pumping water, and various other uses; but under the present system the punkhas are so badly and unevenly worked, that I think they are hardly worth their enormous cost.

The bedding might be improved by substituting a coir mattress in place of the straw pallinasses now issued. It would be more comfortable for the soldier, particularly in the hot weather; and in the long-run more economical than straw, which has to be changed every three months.

Captain T. S. A. Mackenzie, 9th
Lancers.

12. Could not petty barrack repairs and maintenance of barrack furniture, &c., be provided regimentally by fixing a maximum allowance within which the officer commanding might sanction expenditure?

Lieutenant-Colonel R. Blandell,
3rd Hussars.

No; because no commanding officer could keep his barrack-rooms and furniture in proper repair for the sum that the Government would sanction.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

It could not be carried out in a cavalry regiment, where every man is engaged with his professional duties, particularly in a lancer regiment, which is armed now with three different weapons; so that I think the present system could not be improved on.

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

Possibly in infantry regiments, where the provision of useful occupation for the men is much to be desired; but not in cavalry.

There are already far too many departments in cavalry regiments requiring constant supervision; and neither non-commissioned officers nor men could be spared from their regular duties. Moreover, a regiment cannot command the market, or buy independently of local fluctuations in the timber trade, as the department like the commissariat is able to do.

Lieutenant-Colonel J. C. Le-
Queune, 12th Lancers.

Yes; I think so. It would save correspondence. There is talent and working-power in regiments. It would promote industry and give occupation.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

I think something might be done in this way; but the commanding officer has enough to do without undertaking further responsibilities.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

It might; but there are few commanding officers who would care to undertake a duty which would constantly bring them into conflict with the public works department.

Major J. W. Chaplin, 8th
Hussars.

This I should consider desirable, particularly in small stations, where there is no resident engineer officer. If adopted, the commanding officer, who is the best judge of what repairs or works are most essential, could then have them carried out at once; whereas, under the present system, a considerable time is often taken up in correspondence before a repair—which, although perhaps small, is of some importance (for instance, a repair to a roof of a hospital)—can be carried out.

Major E. A. Wood, 10th Hussars.

I think that few commanding officers would have the requisite knowledge for this work. There is no fixed time for any regiment to occupy a station; so there would always be a difficulty of valuation of barrack furniture, &c., when regiments relieved each other; added to which I consider it very unfair to add to the list of the numerous and very onerous duties and responsibilities of a commanding officer by making him a Government contractor.

Captain T. S. A. Mackenzie, 9th
Lancers.

If it is meant that these repairs are to be carried out by the men of the regiment, it would be quite impossible in a cavalry regiment, more so in a lancer one, carrying sword, lance, and carbine. The non-commissioned officers and men, when not employed at stable duties, are required to be at drill to obtain and maintain any degree of efficiency in the use of so many weapons, as well as the additional duties, such as fencing, gymnastics, telegraphy, map-reading. Therefore, a staff of Native workmen would have to be entertained, both to supervise and execute repairs to barracks and barrack furniture, which, in my opinion, would be a difficult matter for a commanding officer to carry out if a fixed sum was allowed.

13. Are you satisfied with the arrangements for the supply of grain for the horses of your regiment? Would it not be more economical, and at the same time improve the horses' ration, to attach a mill to each regiment for the purpose of crushing and mixing the grain now issued?

Lieutenant-Colonel R. Blundell,
3rd Hussars.

I am satisfied with them.

It very likely would improve the grinding and mixing of the grain, but I don't think that it would be more economical than the present arrangement. If the grindstones are good, large ones, the grain is quite sufficiently crushed by them.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

The arrangements for the supply of grain for the horses of the regiment are quite satisfactory. The grain supplied is always of very fair quality, and always obtainable when wanted. A mill attached to each regiment for crushing the grain would be a great gain in several ways. In the first place, it would be cheaper; in the second, the grain would be much better ground; and third, less time would be taken in grinding.

Lieutenant-Colonel Lord R. D. Kerr,
Commanding 10th Hussars.

Yes, by dealing regularly with a gomashita, a better description of grain and fresher supply is secured.

In barracks economy to Government would certainly be secured; but on the march or on detachment the necessity for private troop grain-grinding arrangements would still remain.

Lieutenant-Colonel J. C. Le Quesne,
12th Lancers.

During the past few months I get the boiled grain, which has much the result of beans at home.

Possibly a mill would get the work done quicker, and much less manual labor than now. Such an advantage.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

Not thoroughly. Squabbles have occurred with the commissariat.

Quite satisfied, if what is absolutely necessary is granted without argument.

Once there was trouble about barley, which our horses could not digest. After endless trouble, it was discovered that the barley in different districts, though similar in appearance, may be entirely different in quality.

A machine, most certainly not. Was tried in 4th Hussars in 1863, and failed lamentably.

Major J. W. Chaplin, 8th
Hussars.

In stations where there is a control officer to check the Native contractor, I consider that the present arrangements for the supply of grain, bran, &c., works well. As regards a mill, there is no doubt that a ration is improved by being crushed; but I almost think a small grinding-stone worked by Native women for each troop is quite as serviceable and quite as economical.

Major E. A. Wood, 10th Hussars.

Commanding officers should have more discretionary power as to the forage (grain) required for their horses. At present a change of grain requires a very unnecessary amount of time and correspondence. I think it would be more economical, and would also improve the horses' ration; if a mill was supplied to each regiment for the purpose of crushing the grain, and the grain should also be soaked regimentally and not by troops: tubs or large iron receptacles to be furnished by the Government for that purpose.

But on service either small machines must be issued to regiments, or the commissariat would have to issue the grain ground.

Captain T. S. A. Mackenzie, 9th
Lancers.

I am satisfied that the commissariat department should continue to supply grain to the regiment. It would be more economical to attach a mill to each regiment capable of grinding or crushing the whole of the grain for the regiment than to continue the present system of one mill for each troop; and I think it would certainly improve the horses' ration especially the barley.

Special provision, however, would have to be made for the carriage of the mill on the line of march, so that it would arrive in camp as soon as the regiment. The present troop mills were carried on the grass-cutters' ponies in Afghanistan, and were always up in good time, so that the grain which was issued on arrival was crushed and ready for the horses by feed time.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

I am satisfied with the arrangements for the supply of grain for the horses of my regiment, so far as the quality of the grain tendered for issue is concerned, but I consider that the same ration should not be given all the year round, and that commanding officers should be allowed to vary it whenever they wished. During the hot weather, or at other seasons, when horses are doing gentle work, a ration of bran of at least 2lbs. a day in lieu of the same quantity of grain should be issued; and

the occasional change of feed from gram to oats would be very beneficial. Barley, unless ground to a powder, is highly objectionable.

If a crushing mill were attached to each regiment, barley might occasionally be issued as rations during the hot weather; but I do not consider it good food for hard work. No sportsman would ever think of giving it to a pigsticker, hunter, or polo pony if gram or oats were procurable.

14. Are you of opinion that the arrangements for the supply of fodder to cavalry horses are as perfect as they can be? Would it be possible in time of peace to dispense with grass-cutters and obtain fodder by contract?

Lieutenant-Colonel R. Blundell,
3rd Hussars.

I cannot suggest any better ones.

Yes, I should say it would; though I doubt whether, when the grass-cutters were contractors' servants, they would be allowed to collect the grass as they now do. It is certainly worth the trial. If the grass-cutters are once done away with, we shall have, under all circumstances, to rely on contractors.

In the Bombay presidency the grass-cutters only bring in the green grass, part of the grass ration. The dry grass is now bought from a contractor.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

After crossing the frontier only a few of the horses not provided with grass-cutters were supplied with fodder, which was, as a rule, of the most inferior quality. At Jamrud it was often so bad, that the horses would not touch it; and it was scarcely fit for issue for bedding. Frequently, too, there was a delay in obtaining it. It is possible to do without grass-cutters and obtain fodder by contract, but most certainly not advisable. At present, if good grass is to be obtained in the neighbourhood, the grass-cutters can always be made to bring it in.

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

Yes. If economy to Government is the sole object, it is certain that the saving would be very great if the rukhs were given over to the commissariat. On the other hand, the maintenance of a train of Native servants is in many ways an economy. Very many works are by them done regimentally (and that daily) which would in their absence fall as a charge on public works or other departments. The work is done by them efficiently and cheaply in a day, which without their aid would entail correspondence, delay, committees, maps, and tracings, an enormous estimate, and possibly deferred in the end for want of funds.

By keeping up an establishment of grass-cutters, the corps is always ready to move into the district on immediate service. It is most important that cavalry should be kept in an independent condition, and fit to work in troubled or hostile districts where the commissariat and civil authorities cannot command supplies.

Lieutenant-Colonel J. C. Le-
Queue, 12th Lancers.

I have frequently considered this, and acknowledge that in quarters it would. But grass-cutters (like every other working body) would otherwise employ themselves, and, when need arose, would be unget-at-able.

Lieutenant-Colonel H. S. Butler,
13th Hussars.

I cannot say. Localities differ; customs differ; Natives differ exceedingly among themselves.

Possibly in some places; not in most places that I have become acquainted with.

Lieutenant-Colonel G. Luck,
Commanding 15th Hussars.

I think that arrangements would be better if certain portions of ground near cantonments were allotted on which grass-cutters might cut grass. Under the present system the grass-cutters are constantly coming into collision with villagers, who naturally object to having their grass removed without receiving any payment.

I do not think it would be at all advisable to dispense with the grass-cutters, as I propose to utilize the pony for baggage purposes: *vide* memorandum annexed.*

* See appendix No. XXIX.

Major J. W. Chaplin, 8th
Hussars.

I can hardly see how the grass could be better supplied than by the grass-cutters; and although of course, in time of peace, the grass could be supplied by a contractor, yet, on a sudden move of the regiment, it would be extremely difficult to organize an efficient body of grass-cutters and their ponies at a moment's notice.

Major E. A. Wood, 10th Hussars.

No; I would have all *double* grass-cutters paid not less than Rs. 5 per month in the Punjab, mules or ponies bought and sustained by the

State. These animals would then form part of the regimental baggage-animals on the line of march.

I think both the State and the regiment would be very badly served if grass-cutters were abolished in times of peace and fodder supplied by contract.

The grass-cutter does more work and brings in more grass than any contract system could supply during times of peace.

It is a fact, and it has been more than once represented to Government; that the grass-cutters in the Punjab are working for the State at a lower rate of pay than the value of coolie labor.

I do not think the present arrangements could be improved on. It would certainly be possible; but I do not recommend that grass-cutters should be dispensed with, as grass by contract would never be so good or plentiful as that brought in by grass-cutters. I would mention that the State is at no extra expense for bedding; and this is found by the grass-cutters.

In cantonments, in time of peace, it would certainly be possible, probably profitable, to dispense with grass-cutters and get the grass cut in the Government rukhs, and carried in by the moveable column camels and elephants; but a regiment ordered to march, in course of relief, or broken up into detachments in cholera camps, would be dependent on supplies obtained and stacked by the local civil authorities, and the movements of detachments in cholera camps would be much hampered and restricted by the necessity of giving timely notice of a move; whilst, if suddenly ordered on service, the old system would have to be reverted to, of grass-cutters, whom it would be difficult to entertain for the occasion.

Captain T. S. A. Mackenzie, 9th Lancers.

Captain B. A. Combe, 10th Royal Hussars, and Deputy Assistant Quarter-Master-General.

15. Are the grass-cutters absolutely essential on a march? And during the late campaign in Afghanistan did the grass-cutters bring in a sufficient supply of grass, or only when there was a halt of a day or two?

Lieutenant-Colonel R. Handell, 3rd Hussars.

Certainly not in time of peace, when, as in this (Bombay) presidency dry grass and grain are carried by the commissariat to each encamping-ground, or at any rate supplied there.

I cannot answer the second part of the question.

Lieutenant-Colonel R. S. Cleland, 9th (Queen's Royal) Lancers.

Yes, in India, unless the commissariat will carry it. As the Khyber was bare rocks, the grass-cutters were often unable to obtain any; and as the 9th Lancers only marched to Basawal, my experience is *nil*.

Lieutenant-Colonel Lord R. D. Kerr, Commanding 10th Hussars.

No, not in peace time; but in disturbed districts I do not see any way of ensuring supply of fodder without them. Nor would so cumbersome a following have been originally established to a mounted corps without strong reason.

Not in the dry season. The country was arid and desert; but once the rain set in, grass of the best description was daily brought in plentifully, march or no march, excepting always in districts such as the Khyber pass.

Lieutenant-Colonel H. S. Butler, 13th Hussars.

Absolutely in the North-Western Provinces I should say.

I do not know.

Lieutenant-Colonel G. Luck, Commanding 15th Hussars.

I consider the grass-cutter and pony as absolutely essential to a cavalry regiment.

In Afghanistan the ponies of the 15th Hussars were of the greatest use. The last to leave camp, all spare articles were piled on them: picking up the loads of camels that died on the road, they passed all the other baggage-animals on the march, and were the first to arrive at the new camping-ground. Their loads being removed, they were immediately sent under an escort to bring in bhoosa or any grass that might be in the neighbourhood, returning generally after nightfall to stand shivering at their pickets with scanty food and no clothing, waiting to repeat the same programme on the following day. It was not till late in the campaign that an allowance of grain was issued to the ponies attached to the Kandahar column.

Major J. W. Chaplin, 8th Hussars.

I consider grass-cutters to be most essential on a march. No experience of Afghanistan.

Major E. A. Wood, 10th Hussars.

The grass-cutters are absolutely essential on a march. Unless they are in immediate vicinity of an enemy, they would be able to go out after a march and bring in a certain amount of grass, provided there was grass within a radius of three miles of the camp.

During the campaign in Afghanistan there might have been difficulties, from political reasons, which prevented the grass-cutters bringing in their proper quantity of grass, as they never were allowed to leave camp without an escort. In spite of every disadvantage to the grass-cutter, they brought in grass to an extent that it would, in my opinion, have been difficult to surpass by any other arrangement.

Captain T. S. A. Mackenzie, 9th Lancers.

Yes, in India. As a rule, they did bring in a sufficient supply of grass when marching in Afghanistan. Sometimes it was a little difficult to do so when it was not known where to go for; and it was a heavy tax on a regiment after marching in to find an escort for the grass-cutters.

Captain B. A. Combe, 10th Royal Hussars, and Deputy Assistant Quarter-Master-General.

Grass-cutters are not absolutely essential on a march in peace time, when timely notice can be given to the civil authorities to lay on supplies of grass at each camping-ground; but on service, I should say, they were indispensable.

In Afghanistan, even after a long march, they always managed to bring in more or less grass, without which the horses would have fared very badly.

16. What do you consider to be the results of experience in the working of the medical and hospital system as practised generally in India, and during the recent operations in Afghanistan.

Lieutenant-Colonel R. S. Cleland, 9th (Queen's Royal) Lancers.

In India the working of the medical and hospital system is good, it being regimental. It appears to me that the servants and cooks are very inferior for so important a duty as they are called on to perform. A hospital orderly was formerly allowed to assist with the worst cases of illness and help generally; but he was discontinued by general orders.

In Afghanistan the sick were not treated regimentally, but sent to field and base hospitals. There was no opportunity of testing the advantage of such a system; but I am of opinion that for the benefit of any regiment it is better to keep sick under regimental arrangements.

Lieutenant-Colonel Lord R. D. Kerr, Commanding 10th Hussars.

Theoretically good. Result, during the late operations collapsed, whenever a strain was put upon it (as during the advance from Peshawar and the march back to India), from want of sufficient staff of surgeons, want of previous knowledge on their part of the duties allotted to each, and of the practical working of the system, and an utter want of organization of attendants. A trained army hospital corps is a necessity; and for mounted corps, liable to be detached and kept on out-duties, an efficient system of moveable field hospitals is absolutely necessary. After the action at Fettehabad the wounded had to be sent seventeen miles to the nearest field hospital where they could be adequately attended to.

During the advance, the field hospital being at Ali Musjid, the 10th Hussars were at Basawal, upwards of thirty miles off, with a regimental hospital, so-called it is true, but without any provision for probable necessities, no stores, medicines, no cooking-pots, beds, &c., for sick, nor common necessaries. Had the enemy stood to his ground, a shameful tale would have gone home of how the sick were cared for. Economy in the arrangements for sick and wounded, had we been called on to do hard fighting, would have caused disaster to the army, all the more deplorable in that it was needless. A regimental hospital should be always maintained, especially in mounted corps, on a scale adequate to any strain which may be put upon it. On our return from Gundamak it was well known that the 10th was about to march through a cholera district. We were short of surgeons, of transport for the sick, and, worst of all, of medicines and necessary appliances.

Lieutenant-Colonel J. C. Le Quesne, 12th Lancers.

I have always favored the old regimental medical system. Then the doctor knew his men; they him; and he was a working institution.

Lieutenant-Colonel H. S. Butler, 12th Hussars.

Most excellent in my own regiment, but no doubt very expensive. In other regiments it is hard to ascertain, but at times I have had my doubts.

Lieutenant-Colonel G. Luck, Commanding 12th Hussars.

The regimental system as practised in India works well, and is far preferable to any other.

The general hospital system is hated by both men and officers, who naturally prefer to be treated by a medical man that they know and trust than to be at the mercy of an utter stranger, who has no interest in them or in their regiment.

The 15th Hussars were remarkably healthy during the Afghan campaign, and very few men had to be transferred to the field hospital. The new system therefore, as far as my regiment was concerned, was not put to any test.

Major J. W. Chaplin, 8th Hussars.

The medical and hospital systems at present in operation in India are such as I approve of—namely, the modified regimental system. It is necessary, however, that there should be three medical officers doing duty with a cavalry regiment. No experience of Afghanistan.

Major E. A. Wood, 10th Hussars.

As generally practised in India under the new system, it would be hard to give an opinion, as it has not yet had a fair chance; but I think there is a lamentable want of discipline among junior members of the medical profession, and even amongst some of the seniors.

In the Khyber column the operations were so limited, that it hardly showed up how utterly unfitted were the hospital and medical arrangements for anything like a light field hospital to accompany an advanced guard of an army of any strength.

On the few occasions that the regiment under my command formed, as it were, a part of the advanced guard of the column, the medical arrangements were far from being satisfactory. Luckily they were not much required.

Captain T. S. A. Mackenzie, 9th Lancers.

The medical system up to the present time in the regiment under my command has very nearly approached that of regimental medical officers, the surgeon-major and one surgeon having been four years with the regiment. I am of opinion that a permanent medical staff is of immense importance to a regiment. I am of opinion that the hospital system as practised in India is very good, it being the regimental system, which undoubtedly contributes to the greater efficiency of a regiment, and the welfare and comfort of the sick soldier. I am of opinion that the servants are the great blot in an Indian hospital. Coolies hired from the bazaar as required at Rs. 4 a month are the nurses of the sick. These men are ignorant, untrained, and dirty. Their caste prevents them attending to many of the most urgent wants of the sick. The cooks are very inferior, and without special training in cooking for the sick. The head-cook gets Rs. 6 a month and is about on a par with an ordinary troop cook. I am of opinion that there should be a corps of trained hospital servants, enlisted men, and subject to martial law. They should be of a low caste, to enable them to obey all the wants of the sick. During the recent operations in Afghanistan there was virtually no hospital or proper staff with the regiment. Slight cases requiring only a few hours' treatment were detained; all others were sent to the field or base hospitals. There was no strain to test the efficiency of this new system; but the men disliked it, and begged to be kept with the regiment.

A section of the field hospital from Lundi Kotal was stationed with the brigade; but had a force been detached for a week or two, I presume the section of the field hospital could not have accompanied it, or been further sub-divided, as it was fully occupied by the sick, and only had two medical officers with it. Extra tents had been applied for from regiments; so there must have been pressure for accommodation. In this strait what would have been done with the sick and wounded, dependent as they would have become on the very limited resources allowed to regiments?

The major part of the field hospital was two marches away with the rest of the division, and probably fully occupied; and the base hospital was five marches distant at Peshawar.

I am of opinion that a return in some measure, if not practicable in its entirety, to the regimental system in this country would be most advantageous. It had to be introduced as best it could be, immediately the force was broken up in Afghanistan, and found the regiment without its usual staff of medical officers, subordinates, servants, medicines, and tents for a considerable time, in a cholera track. The regiment had been too much denuded by the general hospital system.

Captain B. A. Combe, 10th Royal Hussars, and Deputy Assistant Quarter-Master-General.

Commanding and medical officers will probably report so fully on this, that I will only say that the feeling of officers and men generally is most strongly in favor of the old regimental system, under which a medical officer knew, and was known by, all ranks; and I wish to bring to notice that no arrangements were made at the base, Peshawar, at the commencement of the recent campaign for the reception of sick or wounded officers who were refused admittance to the general or base hospital and referred to the hotel and dāk bungalow, both of which were probably (as in my own experience) full, and the sick officer left to shift for himself as he best could, and trust to the kindness of strangers to take him in.

17. State your views as to the efficiency of the arrangements in cantonments and on field service for the transport of the sick both in *personnel* and *matériel*; and give any practical suggestion which may occur to you as likely, if acted on, to improve efficiency or reduce expenditure.

Lieutenant-Colonel R. Blundell,
3rd Hussars.

In cantonments they seem efficient. I have no other experience of them.

Lieutenant-Colonel R. S. Cleland,
9th (Queen's Royal) Lancers.

I am of opinion that doolies and ambulances are sufficient in cantonments. The latter might be more used for suitable cases on the line of march in the plains and replace a proportion of doolies for field service. In suitable country ambulances might be used to a greater extent.

In Afghanistan the doolie-bearers supplied to the regiment were very inferior: many of them were sick, decrepit, and weak. The doolie, in my opinion, is too heavy for hill warfare. Properly trained mules with litters would suffice for many cases, and hill-chairs for others, with lying-down accommodation for the more serious cases.

Lieutenant-Colonel Lord R. D.
Kerr, Commanding 10th Hussars.

In Indian warfare, where sick and wounded must necessarily be carried with the troops to avoid massacre, I see nothing to surpass the doolie for general use. True it is heavy and cumbersome; but lighter framework of equal strength might be introduced. There is always sufficiency of kahars to be obtained; and for conveyance of wounded it is preferable to the best ambulances, and can go on any ground.

Doolie-bearers should be drilled to their work; for it is an art like many other simple-looking things. They should also be provided with a uniform or distinguishing mark. The entertainment by the European garrison of this empire of as large a body of paid and pensioned Native followers, whether syees, grass-cutters, or kahars, is in my opinion of great importance for the maintenance of relations between the rulers and the people of India; and should be considered when the question of economy is moved.

Lieutenant-Colonel J. C. Le
Quesne, 12th Lancers.

No knowledge.

Lieutenant-Colonel G. Luck,
Commanding 16th (The King's)
Hussars.

The arrangements in cantonments are satisfactory on field service, where carts cannot be used. The Hamilton doolie is the best for bad cases, and the Lushai for others. The *kajacahs* are useless in cavalry regiments, as they can only be utilized for foot-sore cases. The question of transport for sick in time of war is one that above all others requires immediate attention. If the doolie is to be retained—and I do not see what other mode of carriage can possibly be adopted in India—something ought to be done to have a reserve of doolie-bearers always ready for an emergency, particularly now that, owing to railroads, the race of doolie and bhaggy bearers is gradually becoming extinct.

The manner in which Natives of the poorer classes were during the late campaign pressed as doolie-bearers was simply disgraceful. Most of those sent to my regiment had never carried a doolie, and their shoulders were not accustomed to carrying weights; so it was no wonder that long before the regiment crossed the frontier 200 out of 240 bearers had deserted, and a long halt had to be made to get their places filled up.

Major J. W. Chaplin, 8th
Hussars.

From what I can gather, the arrangements for transport of sick in India are good.

Would it be advisable to train a few men per troop in stretcher drill?

The institution of a light regimental ambulance would be highly useful and economical.

Captain T. S. A. Mackenzie, 9th
Lancers.

I am of opinion that the arrangements for the transport of sick in cantonments by ambulance and doolies are good. On the line of march in the plains, for slight and ordinary cases, a good ambulance, with strong commissariat bullocks, would enable many doolies to be dispensed with, and be more economical. Hired bullocks are unsuited. They break down, and the drivers desert with them during the night. During the late campaign in Afghanistan an immensity of trouble, extra labor, and expense was experienced owing to the wretched physique of the doolie-bearers. Many of them were old, weak, and diseased. The medical officer and apothecary had to superintend, feed, and house many of these undisciplined and ignorant coolies, which added very considerably to their own more important duties. On this head I think a change is necessary on service.

The doolie is heavy and cumbersome. Some lighter conveyance is needed, which might be carried by fewer bearers, if strong, healthy, and trained men.

In the cases of men slightly wounded or not seriously ill, properly trained mules, or camels, with suitable saddles, litters, or *kajawks*, might be used. I am also of opinion that ambulances might be more used in the plains.

In a cavalry regiment the squadron carts might be used as ambulance carts, for which they are well adapted; and in peace time the regimental sick might take air and exercise daily in these carts, horsed by troopers or the regimental draught horses, instead of in bullock carts as at present.

C.

BRITISH INFANTRY.

1. Would it be advisable to raise the strength of British regiments in India to 1,000 rank and file, which is the English "war establishment"?

Colonel J. A. Riddell, 1-25th Regiment.

I am of opinion that it would be extremely advisable to do so.

Colonel H. S. Cochrane, V.O., Commanding 43rd Light Infantry.

Certainly, this is necessary. So many men are away from a regiment in India at convalescent depôts and *en route* home, that when it is required for field service, about two-thirds only can be got under arms.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

I certainly think so. With the present strength, a regiment would soon be reduced to less than an efficient strength if exposed to much hardship, fighting, &c.; and regiments are now called upon to give such a large number of men for departmental purposes (we had 38 so employed last war).

Lieutenant-Colonel W. D. Thompson, Commanding 1-17th Foot.

I think it would be advisable, that is, if regiments in the field are in future to be called on to furnish to the same extent as heretofore orderlies, clerks, signallers, &c., and assistants to the commissariat, telegraph, medical, ecclesiastical, and other departments. In April last the strength of the 1-17th Regiment in India was within 38 of 1,000 rank and file; but the actual numbers present and available for field service never exceeded the limits of a handy battalion. The question, however, involves a consideration of the present barrack accommodation at the various stations, and the increase of the already excessive regimental married establishment, &c., &c.

Lieutenant-Colonel M. Macgregor, 1-18th Foot (The Royal Irish).

Yes; this would enable a battalion to march on service with about 880 rifles, and might reduce the number of British regiments required in India.

Lieutenant-Colonel A. Templeman, Commanding 1-21st Fusiliers.

I think so, certainly. The present establishment, weakened by invaliding to hill stations, convalescents awaiting invaliding to England, sick in hospital, and unavoidable garrison and regimental employments, is virtually always considerably below its reputed strength of 820 rank and file.

Lieutenant-Colonel A. G. Daubeny, 7th Fusiliers.

Yes; nearly every consideration appears to me to point in favor of the stronger battalion.

The tactical unit (125 men per company) is not too strong; and, with the present staff, a battalion 1,000 strong can easily be commanded without undue friction.

On active service the number put in the field is not likely to exceed 800, which is certainly not too strong to commence a campaign with.

The economy of maintaining strong battalions would be considerable; for, roughly estimating the respective strengths at 1,000 and 800, four battalions would do the work of five, whereby the cost of the staff of the fifth battalion would be saved (about £13,000 a year).

The drawback to the large battalions is the increased separation which, in this country, would be likely to ensue (unless it should be found feasible to occupy fewer points with Europeans), whereby discipline and efficiency would be sure to suffer. But if the larger battalions should be decided on, I consider it very necessary that all officers of experience should be retained with the colors, and not used, as at present, to command the different invalid depôts, and fill various other posts.

Owing to the present short-service system, the quality of the non-commissioned officers and men is steadily deteriorating; and the presence of officers possessing experience is daily becoming more necessary.

Lieutenant-Colonel G. F. Walker,
Commanding 1-12th Foot.

I am of opinion that, in consequence of the large number of sick men in hospital during the unhealthy season of the year in India, that it would be advisable to increase the strength of regiments of British infantry to 1,000 rank and file; but at the same time it should not be overlooked that if this proposal is carried out, a good deal of expence must necessarily be incurred for extra barrack accommodation.

Take, for example, the limited accommodation for a British infantry regiment at Umballa, one of the principal military stations in India, where, during the cold season, even one infantry regiment cannot be accommodated without making use of the verandahs for the men to sleep in, a proceeding invariably objected to by the doctors; and, moreover, at least two companies have sometimes during the cold season to be put up in tents, if the regiment is nearly up to its present Indian establishment.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

Efficiency combined with economy being the result sought for, and the number of company officers in the battalion being sufficient to administer and lead companies of a strength resulting from 1,000 rank and file being sub-divided into eight companies, I answer in the affirmative.

Lieutenant-Colonel R. Cathbert,
Commanding 2nd Battalion 15th Foot.

Yes; provided the establishment of officers was not reduced, as at present, by the employment of those who are the most efficient on staff and other non-regimental duties.

Lieutenant-Colonel G. W. Puget,
Commanding 84th Regiment.

I am of opinion that regiments of British infantry in India should have a strength of 1,000 rank and file; for on active service one must allow quite one-third of total strength as *casuals*, viz., "sick," "guards," "guard over sick," "guard over baggage," "guard over ammunition," "piequets," "regimental employ," &c. This would leave eight companies with about 36 file fit for duty under arms none too strong.

Lieutenant-Colonel J. S. Hand,
44th Regiment.

Yes; but on active service in the field an extra officer per company would be absolutely necessary.

The present establishment of subalterns is insufficient, owing to the drain upon them for the staff corps.

Officers upon appointment should be called upon to state if it is their intention to enter the staff corps. Those who declare in the affirmative should be borne as supernumeraries and in excess of the establishment of the regiment to which appointed.

Lieutenant-Colonel T. W. Hughes,
54th Regiment.

For peace duties I consider the present establishment of 820 rank and file sufficiently strong.

For a protracted campaign it would be very desirable to start with 1,000 rank and file; but taking the whole duty expected from a regiment of British infantry in peace and war in India, I think the present establishment judiciously fixed.

Lieutenant-Colonel C. B. Knowles,
67th Regiment.

I consider it would be very advisable; for with sick, absent and present, detachment duties, men on passage to or from England, a regiment is rarely up to its present establishment in India.

The 67th Regiment has at present 816 privates on the muster-roll. The India establishment is 780.

Of the 816, only 640 are at present fit for duty at head-quarters; 50 remained in Madras when the regiment moved on service; 58 were left sick at various places *en route*, and not permitted to rejoin during the hot weather; 56 sick or convalescent at head-quarters; 4 on detachment; 8 in prison.

I think not.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

Major F. Stephen, 4th Battalion
Rifle Brigade.

Yes.—Operations in the field would invariably be commenced at the beginning of the cold season, when regiments are frequently reduced from sickness and other causes to mere skeleton regiments. By increasing the strength, it would enable a battalion to take the field (after deducting sick and men left with the *dépôt*) sufficiently strong—a great consideration. It may not be out of place under this head to state that greater care should be taken in the selection of men for service in India.

At present when a battalion is ordered to India a fairly strict examination is made, and old soldiers who are partially broken down are left behind; but owing to the faulty system carried out in the selection of drafts for India, these men almost invariably are sent to join regiments during the course of a year or two. Recruits should also be more carefully examined as to age. The medical officer's opinion on this point should be final, as recruits on joining generally add a couple of years to their correct age.

Major H. P. Pearson, 12th Foot.

I do not see that anything would be gained by such a measure. A British regiment at its present full Indian strength is quite as much as

any man can command properly on parade or in the field. Such an increase would necessitate corresponding expansion in barrack accommodation, which means vast outlay. The alternative would be the division of corps into detachments, which is undesirable for many reasons.

Major J. H. Campbell, 33rd Regiment.

The strength of a regiment should depend in India in a great extent on the barrack accommodation. At this station there is not sufficient for a regiment 1,000 strong; and as it does not add either to the discipline or efficiency of a corps to have it broken into detachments, I consider it would not be advisable to increase the strength.

Major J. D. Dyson-Laurie, 34th Foot.

Provided that the 1,000 rank and file were divided into 10 companies. More than 100 rank and file form an unwieldy company with the present establishment of officers and non-commissioned officers, and is not to be recommended.

Major G. K. Shaw, 68th Light Infantry.

I would be inclined to have the strength of British regiments regulated on a sort of sliding scale. Let a regiment before it is sent out to India be raised to the full war establishment of 1,000. Let it remain out here until the strength had come down to 500 or 600, no drafts being sent out to it. Then send it home. In this way a regiment which had been unlucky in its health in Indian stations would get home sooner, and one which had not suffered from the climate would remain out longer. The expense of sending out continual drafts would be avoided.

The troop-ships would be available to bring out more regiments every year, having no drafts to carry. An average strength of 700 or 800 would be kept up throughout India, which is as many as an ordinary battalion can parade now; and even when casualties had reduced the strength to 600, those 600 men, all acclimatized and all six or seven years in the country, would be more serviceable than 800 men under the present system, one-third of whom perhaps are recruits.

The relieving battalion at home would so arrange its recruiting as to arrive at the full war establishment by the time the Indian battalion had to come home.

The foregoing scheme only contemplates sending home invalids while the regiment is in India. The drain of time-expired men must be got rid of by lengthening the term of engagement for Indian regiments to such a time as will cover the whole Indian service, which latter would probably run from five to seven years.

Major W. H. J. Clarke, 72nd Highlanders.

It would be advisable to raise the strength to 1,000 rank and file; for with the present strength the numbers fit for duty with the colors is too small for war service, for the following reasons, *viz.* :—

1st.—The number of men generally sick, not fit for service in the field.

2nd.—Men left at hill stations sick.

3rd.—The number of men detached for staff employ of different descriptions.

The present strength of officers, non-commissioned officers, and buglers, or drummers is ample for an establishment of 1,000 rank and file in all situations on active service.

A force composed of such battalions presents the following advantages when compared with an equal aggregate of rank and file organized in battalions on the existing scale of 820 rank and file each :—

(a) A saving of 10 per cent. in pay and allowances (see table).

(b) A saving of 5 per cent. in carriage, camp equipage, and baggage, and consequently a reduction in the guards required for regimental camps and baggage trains, and a proportionate increase in fighting power.

(c) A saving of nearly 2 per cent., or, if followers are reckoned, of more than 3 per cent., of food-supplies.

(d) A saving of 2 to 3 per cent. in the hospital accommodation and equipment to be provided for sick and wounded.

Hence each regiment when warned for active service should be raised to a strength of 1,000 rank and file, the increase being effected by drawing from the home dépôt.

The permanent maintenance of an establishment of 1,000 rank and file in India is not advisable for the following reasons :—

(1) A force thus organized would want in elasticity: for assuming that 50 battalions, each of 820 rank and file, are replaced by 41 battalions, each containing 1,000 rank and file, the aggregate fighting strength will in both cases be 41,000 bayonets. But should a sudden emergency demand an increase of 9,000 men, the force of 41 battalions will be incapable of the necessary expansion, except by bringing into the field nine battalions unacquainted with Indian service, and therefore comparatively helpless; on the other hand, 50 battalions of the existing strength could at once incorporate a reinforcement of 9,000 men without becoming less fitted to take the field.

Major W. Galbraith, 85th Light Infantry.

(2) The existing establishment of non-commissioned officers is insufficient for a regiment of 1,000 rank and file in Indian cantonments, where even now, in consequence of the wide dispersion of barrack-rooms, the ordinary routine duties of sergeants and corporals are so severe as to deter many good soldiers from taking promotion.

(3) In most stations existing barracks can barely accommodate regiments of 820 rank and file. It would therefore be necessary either to add new buildings, or to break up regiments into half-battalions or detachments. The latter alternative is most prejudicial. The efficiency of a corps largely depends on its commissioned and non-commissioned staff; and though these are replaced in a detached half-battalion by officiating officers and non-commissioned officers, the withdrawal of the latter from their legitimate duties is so injurious to training and discipline, that I should rely more in the field on a regiment of 820 bayonets that had been constantly together than on one of 1,000 bayonets that had been for any considerable time in separate half-battalions.

Hence regiments raised to 1,000 rank and file in expectation of active service should be allowed to revert to their ordinary establishment as soon as the necessity for an increase of force ceases, the reduction being effected by sending home and not replacing invalids and time-expired men.

TABLE (REFERRED TO IN PAGE 347).

Pay and allowances of a regiment on present establishment for one month of 30 days.

		Rs.	A.	P.	Rs.	A.	P.
OFFICERS.	1 Lieut.-colonel	1,402	4	0			
	2 Majors	1,578	6	0			
	8 Captains	3,563	0	0			
	8 Lieutenants	2,054	0	0			
	8 Sub-lieuts	1,622	3	4			
	Adjutant	543	10	0			
	Paymaster	506	11	0			
	Quartermaster	359	14	3			
	Interpreter	70	0	0			
	Instructor of Musketry	150	0	0			
	Surgeon-Major	325	11	5	12,675	12	0
N. C. OFFICERS.	Sergeant-Major	60	0	0			
	Qr.-Mr. Sergt.	46	10	8			
	Band-Master	54	10	8			
	Armourer Sergt.	81	5	4			
	Hospital Sergt.	98	10	8			
	Srgt. Instructor of Musketry	52	0	0			
	8 Color Sergts.	352	0	0			
	36 other Sergts.	1,296	0	0			
	16 Buglers or Drummers	277	5	4	2,258	10	8
Total exclusive of rank and file					14,934	6	8
RANK & FILE.	40 Corporals	906	10	8			
	780 Privates	12,480	0	0	13,386	10	8
(A) Total for regiment					28,321	1	4
Total pay of 50 regiments of 802 rank and file each, or an aggregate strength of 41,000 bayonets.							
(B)=(A) × 50=					Rs. 14,16,054	2	8
Total pay of 41 regiments of 1,000 rank and file each, or an aggregate strength of 41,000 bayonets (including 1,640 corporals).							
(C)=(A) × 41 × pay of 7,380 privates, at Rs. 16=					Rs. 12,79,244	6	8
(D) Aggregate monthly saving					Rs. 1,36,809	12	0
or roughly speaking					10 per cent.		

Major G. S. White, 92nd Highlanders.

I think it would be a great step in the right direction, both as effecting a saving in the officering of the British infantry in India, and as

likely to increase the efficiency of battalions in the field. The small numbers that can now be paraded often paralyze intelligent instruction of the battalion. India is especially adapted for training men on large areas; but, unless a commanding officer can turn out enough of men to give some semblance of reality to his parade, it degenerates into a mere barrack square drill, with all the real essentials of modern training, such as the study of ground, time and distance, left to the fancy or omitted altogether. If the extra strength of battalions is to be employed for duties detached from battalion head-quarters, I think any saving in expense would be lost in efficiency, particularly with young soldiers.

Captain H. M'L. Hutchison,
1-14th (Prince of Wales' Own)
Regiment.

Yes, I would if it were merely in order that each regiment might perform its own transport work and other duties in the field, and yet have enough men to fight.

Captain R. H. Fawcett, 33rd
Foot.

Certainly, on the double grounds of efficiency and economy :—
Efficiency—

(a) Because discipline is more easily and steadily enforced in a considerable body of troops kept together, it being a notorious fact that the discipline of detachments or small bodies of troops almost invariably deteriorates.

(b) The morale and confidence in themselves of troops also is much greater when they are formed and exercised together in what appears, however comparative the appearance, to be formidable numbers.

(c) When employed in war, a regiment with a paper strength of 1,000 men will probably have an effective strength of 500 bayonets at the outset, and may be expected to keep up a sufficient strength to be useful as a regiment during a campaign long enough to admit of the first series of drilled recruits reaching it; and there will then be sufficient of the soldiers of the regiment who have been in the campaign left to prevent their being swamped by the recruits, and the feeling of the regiment will be that of the trained veterans and not that of the recruits.

(d) There not being required so many staff sergeants with a battalion 1,000 strong as there would be with two of 500 each, there would be to a certain extent more scope in selection of non-commissioned officers.

Economy is also gained by employing strong regiments, as the staff of officers and non-commissioned officers (excluding those required for companies) would be very little greater for a regiment 1,000 strong than for a regiment of the present strength.

2. With your present establishment, how many men (rank and file) could you parade with for active service?

Colonel J. A. Ruddell, 1-25th
Regiment.

About 650.

Colonel H. R. L. Newdgate,
Commanding 4th Battalion Rifle
Brigade.

Seven hundred is probably the most that would be passed fit for active service.

Colonel H. S. Cochrane, v. O.,
Commanding 43rd Light Infantry.

With the present establishment, the 43rd Regiment could only parade for field service 584 rank and file. The regiment is divided as follows :—

Thayetmyo ...	...	...	678
Wellington Depôt ...	...	...	90
Poonamallee—to be invalided home ...	...	...	48
On command ...	...	...	13
			829
Wanting to complete ...	...	...	57
			886
Establishment ...			856

Lieutenant-Colonel T. Rowland,
Commanding 1-6th Fusiliers.

Judging by the number we turned out for late war, 740.

Lieutenant-Colonel W. D. Tomp-
son, Commanding 1-17th Foot.

Probably 650. The strength of the battalion on 14th October 1879 was 832 rank and file, of which 639 marched from Rawal Pindi for the frontier. The remaining 193 were either sick or medically unfit, or on staff employ. The battalion was particularly healthy, having been stationed for the three preceding summers in the Murree hills.

Lieutenant-Colonel M. Macgregor,
1-18th Foot (The Royal Irish).

Not more than 720.

Lieutenant-Colonel A. Temple-
man, Commanding 1-21st Fusiliers.

Taking my duty state of last month, 577 rank and file, including handsmen, pioneers, and clerks—in fact, every one save sick (absent and present) and three hospital attendants.

Lieutenant-Colonel Daubeny, 7th
Fusiliers.

If ordered to parade for active service, we should march out with about 681 rank and file.

Thus—

My establishment (Army Circular, 1877) is 886 of all ranks (exclusive of officers); and this is my exact strength in India at present.

By the same circular my establishment of rank and file is 820.

At present I have 139 rank and file away, so that there would be only 681 available for active service.

Absentees are thus accounted for—

In hospital	...	...	...	51
At convalescent depôts	...	...	...	75
Invalids	...	...	...	4
Prison	...	...	...	9

Total ... 139

Some men would probably rejoin from the convalescent depôts, and one or two from prison; but it would not be safe to calculate on an increase, for, on an inspection before marching out, some few weakly men would be sure to be excluded from the ranks.

Lieutenant-Colonel G. F. Walker,
Commanding 1-12th Foot.

When my battalion left Nowshera in the month of April last to join the 2nd Division of the Peshawar Valley Field Force, I marched out with 780 rank and file. I could have had more men, as the regiment was at that time in a very good state of health; but I was ordered to leave a depôt consisting of 70 men behind me.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

I could parade with about 690 rank and file, but should not recommend more than 600 being taken on service, as from the extreme youth and physical unfitness of the balance it could only be expected to crowd the hospitals and to impede the mobility of the force it might be attached to. This battalion, which arrived in India in November 1878, has already over 60 men invalided in the hills, and expects to send home nearly 50 invalids next trooping season.

Lieutenant-Colonel R. Cuthbert,
Commanding 2nd Battalion 16th
Foot.

About 750.

Lieutenant-Colonel G. W. Paget,
Commanding 34th Regiment.

Seven hundred and fifty-eight rank and file.

This includes 17 drummers.

But it does not include 9 court-martial prisoners, or 12 men on command, as they have not been medically inspected.

Lieutenant-Colonel J. S. Hand,
44th Regiment

Establishment 820 rank and file; actual strength 803. Strength in Burma 770; of whom could parade for active service 708.

Thirty-three are in India at convalescent depôts, &c., most of whom are believed to be fit.

Lieutenant-Colonel T. W. Hughes,
54th Regiment.

With the establishment of 820 rank and file, 720 might be expected to march from quarters for active service. I calculate the sick and absentees from the experience of the 54th Foot during the past five years, and make no allowance for a depôt to protect women and stores.

For example, in March last head-quarters and four companies embarked for service in Burma 384 rank and file. The other half-battalion could have followed with 430 rank and file fit for service without drawing on the convalescents at Darjeeling.

The strength of the regiment at the time was 914 rank and file, and 814 could have been on parade.

The sick list was very small at the time.

Lieutenant-Colonel C. B. Knowles,
67th Regiment.

640 privates: *vide* my answer to question 1.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

About 750.

Major F. Stephen, 4th Battalion
Rifle Brigade.

With the present strength of the 4th Battalion Rifle Brigade, which numbers 962 (being 76 in excess of the establishment) about 500 effective men could be put in the field. Out of 268 men of the draft recently arrived from England, about 200 would now be unfit for active service, and of the remainder about 200 are medically unfit. It must be remembered that these numbers have been increased owing to sickness caused by the recent campaign.

Major F. S. Terry, 1-25th Foot.

Yes; I am of opinion it would be better to do so. A regiment in India is often called upon for service in the field at very short notice. The time-expired men of the year may have left, while the annual draft of recruits from England may not arrive till too late. The invalids of the year cannot be counted in the strength of the battalion, nor those men who are away in the hills for change of climate; besides, a further diminution of numbers takes place by the rejection of those pronounced medically unfit for field service.

The above causes all go to show the advantage of keeping up in batteries in places like India far distant from our resources the fullest establishment of rank and file that can be conveniently held under one command.

Major H. P. Pearson, 12th Foot.

This question can best be answered by a statement of what actually occurred when the regiment was ordered on service in April last. It marched from Nowshera with 770 rank and file and 650 of all ranks, including 25 officers.

Major J. H. Campbell, 83rd Regiment.

About 550 rank and file.

Major G. K. Shaw, 68th Light Infantry.

640 out of 760 now in India.

Major W. H. J. Clarke, 72nd Highlanders.

About seven hundred and fifty, taken on 1st August 1879. When we marched into Kohat on the 8th November 1878, the strength of the regiment was six hundred and thirty-nine.

Major W. Galbraith, 85th Light Infantry.

Being absent from my regiment, I cannot offer a reliable answer. Probably 5 to 7 per cent. would be found unfit for active service, though capable of performing garrison duty.

Major G. S. White, 92nd Highlanders.

The 92nd Highlanders one above their established strength crossed the frontier on 2nd April last, 735, or about 85 men below their strength.

8. How many officers are away from the regiment—

- (a) On medical certificate in England or India?
- (b) In England on private affairs?
- (c) Staff appointments; and of these how many are seconded?
- (d) Regimental depôt or staff college?
- (e) Probationers, staff corps?
- (f) Garrison course.

How many officers are actually present with the regiment?

Colonel J. A. Ruddell, 1-25th Regiment.

Seventeen.

(a) One in England—four in India,

(b) One.

(c) Two—both seconded.

(d) Regimental depôt—2 captains 1 subaltern—none at staff college.

(e) One.

(f) None.

Officers actually present with regiment 13, namely—

Field officer. Captain. Subaltern. Staff.

1 3 8 1 = 13

(One subaltern besides this number is with the depôt at Fyzabad.)

(a) 1 captain and 1 subaltern in England.

1 captain in India.

(b) 1 subaltern.

(c) 1 captain has been seconded, but he no more belongs to the battalion.

(d) 1 captain.

(e) Nil.

(f) Nil.

1 lieutenant-colonel, 2 majors, 6 captains, 11 subalterns, 1 adjutant, 1 paymaster and 1 quarter-master.

Twenty-six.

(a) Five

(b) One.

(c) Six (four seconded):

(d) Four (1 captain, 3 subalterns).

(e) Eight.

(f) Two.

Twenty.

(a) 2 captains and 2 subalterns.

(b) None.

(c) None.

(d) At regimental depôt 2 captains, 2 subalterns; none in staff college.

(e) 2 subalterns.

(f) None.

1 field officer, 3 captains, 6 subalterns, 2 staff.

Colonel H. R. L. Newdigate, Commanding 4th Battalion Rifle Brigade.

Colonel H. S. Cochrane, F.C., Commanding 43rd Light Infantry.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

Lieutenant-Colonel W. D. Tompson, Commanding 1-17th Foot.

- (a) In England none. In India three.
- (b) None. All rejoined for the Afghan expedition.
- (c) Two. Colonel Colbhe appointed Brigadier-General at Agra. Captain Turner a probationer for the Army Pay Department Seconded, none.
- (d) Two at the regimental depôt. (Should be four, but two vacancies have occurred by deaths.)
At the staff college, none.
- (e) Two.
- (f) None.

Twenty-one, including those on privilege leave and at the service depôt at Rawal Pindi, exclusive of medical officers. Three second-lieutenants are required to complete the establishment.

Lieutenant-Colonel M. Maegregor, 1-18th Foot (The Royal Irish).

- (a) Three.
- (b) One.
- (c) Five; four of these are seconded.
- (d) Five.
- (e) Two.
- (f) None.

Twenty-one, including three officers at a convalescent depôt.

Lieutenant-Colonel A. Templeman, Commanding 1-21st Fusiliers.

- (a) 2 lieutenants in India.
- (b) None.
- (c) 7 captains; 4 of these seconded.
- (d) 1 captain and 2 lieutenants, home depôt; 1 captain, staff college.
- (e) 3 lieutenants.
- (f) 1 second-lieutenant, course of signalling at Bangalore.

Other absentees—1 captain, probationer for army pay department with 2-16th Regiment; 1 captain, duty at Wellington depôt; one second-lieutenant, duty at Poonamallee depôt, present with battalion.

N.B.—I here give numbers as they will be on 31st instant, when 1 major and myself will have rejoined from leave of absence:—

- 1 lieutenant-colonel.
- 2 majors.
- 3 captains, including acting paymaster.
- 10 lieutenants, including adjutant and instructor of musketry.
- 1 quarter-master.

Lieutenant-Colonel Daubeny, 7th Fusiliers.

- Including those at the depôt 20 officers are away—
- (a) On medical certificate in England or India ... 3
- (b) Private affairs, England ... 2
- (c) Staff appointments (two of these seconded) ... 7
- (d) Regimental depôt or staff college ... 5
- (e) Probationers, staff corps ... 3
- (f) Garrison course ... Nil

The number actually present with the battalion is 18.

Lieutenant-Colonel G. F. Walker, Commanding 1-12th Foot.

- (a) Three captains and two subalterns on medical certificate in India; none at home.
 - (b) None.
 - (c) One major, three captains, one of whom is seconded.
 - (d) One captain, two subalterns, at regimental depôt; one captain at staff college.
 - (e) Two subalterns.
 - (f) None.
- One field officer, two captains, seven subalterns, and one staff.

Lieutenant-Colonel D. Warren, Commanding 2-14th Regiment.

- (a) None.
 - (b) None.
 - (c) One lieutenant on transport duty in Kuram valley, not seconded.
 - (d) Captains 2, subalterns 2.
 - (e) None.
 - (f) None.
- Field officers 3, captains 8, subalterns 14, staff 4, not including medical officers.

Lieutenant-Colonel R. Cutlibert, Commanding 2nd Battalion 15th Foot.

- (a) Medical certificate ... 5
- (b) In England private affairs ... 1
- (c) Staff appointments ... 6
- of these are seconded ... 3
- (d) Regimental depôt ... 5
- (e) Probationers, staff corps ... 3
- (f) Garrison course ... Nil

- 18 Regimental officers.
 2 Medical officers.
 1 Paymaster.

—
 21
 —

Lieutenant-Colonel G. W. Puget,
 Commanding 34th Regiment.

Twenty-two officers are away from the regiment—

- (a) Four.
 (b) None.
 (c) Nine, of whom five are seconded.
 (d) Four regimental depôt; staff college none.
 (e) Four, of whom three are seconded.
 (f) One due on 1st October 1879.

Twenty-one officers are actually present with the regiment.

This includes—

- 1 Surgeon-major.
 1 Quarter-master.
 1 Paymaster.

There are actually present with the regiment 22. This includes adjutant and quarter-master.

- (a) None.
 (b) One captain.
 (c) Four captains, of whom three are seconded.
 (d) Four at regimental depôt, and one at staff college (5).
 (e) Six subalterns.
 (f) None at present; one under orders for next class.

Twenty-one officers present with the regiment, including paymaster and quarter-master, and officers on privilege leave.

Eighteen.

- (a) Nil.
 (b) 2.
 (c) 2, both.
 (d) $\begin{cases} 4 \text{ at regimental depôt.} \\ 3 \text{ at depôt, Bangalore.} \\ 2 \text{ attached to 37th Foot till trooping season.} \end{cases}$
 (e) 5.
 (f) Nil.

19 combatant officers, of whom 8 of the juniors have announced their intention of joining the staff corps when duly qualified.

- (a) None.
 (b) Seven.
 (c) Four; three are seconded (adjutant's auxiliary forces).
 (d) Three regimental depôt; none.
 (e) None.
 (f) None.

Fifteen, and one with the depôt at Sitapur.

Four captains and one subaltern.

- (a) One captain and one subaltern.
 (b) One captain and one subaltern.
 (c) Two captains (both seconded).
 (d) One captain, one subaltern.
 (e) None.
 (f) None.

Major H. P. Pearson, 12th Foot.

There are absent from the regiment the following:—

- (a) On medical certificate, none in England, four in India.
 (b) None on private affairs in England.
 (c) Five holding staff appointments, namely, one in England, four in India; of the five, two are seconded.
 (d) Three at the depôt in England; one at the staff college.
 (e) Three probationers for the staff corps.
 (f) None at the garrison course.

There are eleven officers actually present with the regiment, but that number does not include five on privilege leave and two at depôt of the battalion in India.

Twenty-one.

- (a) None.
 (b) Two.
 (c) Six, of which three are seconded.
 (d) Four at regimental depôt.
 (e) Two.

Lieutenant-Colonel J. S. Hand,
 44th Regiment.

Lieutenant-Colonel T. W. Hughes,
 64th Regiment.

Lieutenant-Colonel C. B. Knowles,
 67th Regiment.

Lieutenant-Colonel G. H. Parker,
 92nd Highlanders.

Major F. Stephen, 4th Battalion
 Rifle Brigade

Major J. H. Campbell, 33rd
 Regiment.

(✓) There are besides two officers doing duty with North-Western Frontier Force and two officers doing duty at convalescent dépôt.

Fourteen.

Major W. H. J. Clarke, 72nd Highlanders,

Nineteen—

- (a) Two.
- (b) One.
- (c) Five; seconded two.
- (d) Regimental dépôt four; staff college none.
- (e) Three.
- (✓) None.

Nineteen. All the above answers taken on 1st August 1879.

4. What reductions do you consider feasible in the establishment of followers with your regiment in peace and war?

Colonel J. A. Ruddell, 1-25th Regiment.

In peace time none. In war all, except the following—
16 packulis.
8 sweepers.
2 bildars.

I would recommend that mules should be substituted for bullocks in war.

Colonel H. R. L. Newdigate, Commanding 4th Battalion Rifle Brigade.

I think that many of the duties now performed by Native cooks and mehters might be performed by the soldiers in the cold weather in peace time. On service it is of consequence not to keep more men than is absolutely necessary out of the ranks.

None.

Colonel H. S. Cochrane, v.c., Commanding 43rd Light Infantry.

In peace I don't think any; in war 4 of the sweepers and 4 bildars could be dispensed with.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

During peace, and serving in cantonments, there could be no reduction in Native followers. The authorized number is barely sufficient for the wants of a regiment in barracks.

In war each company should have their field service allowance of water-carriers, *viz.*, 2 packulis and 2 bhistics, with 1 sweeper and 4 cooks. On an emergency 1 packuli, 1 bhistic, and 4 cooks would suffice.

Lieutenant-Colonel A. Templeman, Commanding 1-21st Fusiliers.

None. The present establishment of bhistics would be far below the requirements of the battalion when on the march or in the field.

Lieutenant Colonel A. G. Danbony, 7th Fusiliers.

None. The cantonments are so extensive, that I do not consider the soldiers could be employed in sweeping and cleaning, as in England, without suffering from the sun; and the present Native establishment only just suffices for the work that has to be done.

In war much would depend on the locality of the scene of operations; but, as a rule, I consider the soldier in India would have quite sufficient to do in marching and fighting and in pitching his camp and looking after his arms, &c., on termination of the day's work, without being further saddled with duties of fatigue for purposes of sanitation, &c.

Lieutenant-Colonel G. F. Walker, Commanding 1-12th Foot.

With due regard to efficiency, I do not see that any reduction in the followers could be made during peace. In time of war one-half of the quartermaster's establishment of sweepers and the hand-bhistics might be dispensed with; also the conservancy.

Lieutenant-Colonel D. Warren, Commanding 2-14th Regiment.

None. Unfortunately the efficiency of the British soldier in this country is dependent upon the services of Natives, who are able to perform certain offices which the European is unable to perform for himself without serious risk to his health; also a reduction in the fighting strength of the battalion would ensue even could the duties performed by lascars, bhistics, sweepers, cooks, &c., be undertaken by the soldier during certain times of the year.

None.

Lieutenant-Colonel R. Cuthbert, Commanding 2nd Battalion 15th Foot.

No reduction is feasible. The present establishment barely suffices to carry out with efficiency the duties for which entertained.

Lieutenant-Colonel G. W. Paget, Commanding 34th Regiment.

Public establishment none; on active service would require augmentation.

Lieutenant-Colonel J. S. Hand, 44th Regiment.

Private establishment, such as cooks, dhobis, &c., none are absolutely necessary; but on service in the field their presence would be a source of strength as well as economy, since they cost less to ration, and, in their absence, the duties would necessarily be performed by soldiers, thus reducing your fighting line.

Lieutenant-Colonel T. W. Hughes,
64th Regiment.

Lieutenant-Colonel C. B. Knowles,
67th Regiment.

With due regard to the reasonable comforts of the men, and the necessary conservancy operations, I do not think any reduction feasible.

I have no experience with regard to a peace establishment than that maintained in Madras, where the establishment consists of—

2 bhisties per company.

1 kutwah } per battalion.

2 peons }

Sweepers: toties are stationary.

When the regiment left Bangalore, the establishment was increased—

2 bhisties } per company.

1 totie }

1 tindal }

12 lascars } per battalion.

The lascars I consider can be reduced one-half.

The toties should be increased one per company.

None in peace, but one-quarter in time of war.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

Major F. Stephen, 4th Battalion
Rifle Brigade.

In the establishment of followers (with the exception of tent lascars, who are in excess of the number required), I do not see that any reduction in time of peace could be made; but mehters, bildars, tent-lascars, and a proportion of cooks might in war time be dispensed with altogether, the whole of the duties performed by them being done (and with advantage) by the soldier.

Major F. S. Terry, 1-25th Foot.

I do not consider that in peace time there could be any reduction of followers, except where mechanical appliances can be substituted; but in war the only establishment that need be retained is 16 puckalis, 8 sweepers, and 2 bildars. In war I would recommend mules to be substituted for bullocks for carrying water. On a long march in hot weather the bhisties soon get run out of water, and the bullocks cannot keep up well enough to be of use.

Major H. P. Pearson, 12th Foot.

In cantonments the scale is, in my opinion, cut down to the lowest point compatible with efficiency, and in the matter of conservancy is in some respects too low, notably so in the number of filthearts allowed. It is no uncommon thing for divisions of artillery and regiments of infantry to supplement the scale of carts allowed by Government with others kept up at the cost of the regiment. The puckalis, bhisties, cooks, and sweepers are all hard-worked.

The number of followers allowed by scale for the Afghan campaign was sufficient, but certainly not in excess of requirements.

Major J. H. Campbell, 83rd
Regiment.

The soldier should be required to keep his barrack-room clean and in order, both outside and inside. This would reduce the number of sweepers; but this is the only reduction I think could be made in peace time. In war time bhisties alone are a necessity, and, if the campaign is during the hot season, two cooks per company to watch the cooking during the heat of the day; but the soldier should be required to prepare the rations for cooking.

Major J. D. Dyson-Laurie, 34th
Foot.

Regimentally, in the plains I have not found any superfluity of followers. In the hills I think that the more occupation the soldier has the better, and that followers might be very generally dispensed with advantageously.

Major G. K. Shaw, 68th Light
Infantry.

None in peace time, except in hill stations, where I do not think cooks are required, as suggested in answer to question 7.

On field service the number of sweepers, cooks, and cook's utensils might be reduced.

Major W. H. J. Clarke, 72nd
Highlanders.

I do not consider any reduction feasible in the establishment of followers in peace time; that is, if the comforts of the men are to be looked to. Nor do I see how the present Cabul scale could be reduced in time of war, unless the men were made to cook and wash for themselves. But I do not think this would be a good plan, except under emergency; for in my opinion the climate of India is not fitted for Europeans to be employed in the above-mentioned works.

Major W. Galbraith, 65th Light
Infantry.

In considering this question, it must be borne in mind, not only that every needless follower is at all times a source of expense, and an embarrassment in war, but also that the soldier is rendered less independent and efficient by being taught to look to others for services which he is

capable of performing for himself without detriment to his health. Thus, during the recent campaign, small escorts, parties of signallers, &c., when detached from the neighbourhood of British troops, experienced great difficulty with regard to cooking their food. Cooks and degchies could not be spared; and the alternative was to supply cooked rations, which, carried in a haversack, soon become unpalatable and unwholesome.

In South Africa such parties would have been quite independent. The men from long practice were full of resource; and if neither camp-kettle nor mess-tin was available, a spit was found in the nearest stick, and a stewpan extemporized by wrapping the meat in fresh leaves and covering the whole with a layer of clay dough.

Reductions suggested.—Kahar (see answer 14).

The employment of bhistics is rendered necessary by the conditions of water-supply in India.

Lascars, sweepers, bildars, cooks, and dhobis, except those entertained for hospitals, should not accompany a force on field service; nor should any of the first four classes be allowed in ordinary camps or on the line of march.

I would also dispense with cooks at hill-stations, and would only allow one per company in the plains, in order that the men might learn to prepare their own food.

This would involve the substitution of iron camp-kettles for copper degchies—a change for the better, as they do not require tinnings, are easily cleaned, preserve the ration from dust on the march, and can be slung on any baggage-animal without kajawals.

There are a number of extra bhistics and bildars entertained during a march, whose services might be dispensed with. Good men won't take the temporary employment which generally takes them far from their homes. Coolies are employed to fill the muster-rolls, whose plans it suits to travel in the direction the battalion is moving. There are pueka wells on most of the camp-grounds.

I should endeavour in both cases to do without Native followers, except a few mehters and bhistics.

I do not think that in the plains during the hot season and rains the present number of followers could be reduced with due regard to the soldiers' health, but whenever stationed in the hills, or even in healthy elevated situations, as Poona or Bangalore, all followers should be dispensed with as much as possible, and the soldiers trained to be self-dependent, as in England.

In war time bhistics would be always necessary; but I think the cooks might be dispensed with, and the soldier encouraged to cook food for himself and comrade in his mess-tin. When a regiment arrives on its ground at the end of a march, three or four hours at least is required before a meal can be prepared in the large cooking-pots in use with British regiments in this country, whereas the same food, divided into small mess-tins, can be rapidly cooked. In Abyssinia many of our men took to cooking by themselves in their mess-tins to gain this advantage over those who waited for the company cook. The Native cook is indispensable during the hot weather and the greater part of the year in peace time; but a true "march out" for three or four marches from cantonments, making a week or ten days outing in the cold weather, during which time the soldier was made to cook and do every thing for himself as much as possible, as in war, would do much for the efficiency of British troops in this country, who have lost enormously in valuable training through reliefs being carried out by rail instead of march route.

5. Do you consider the present mode of entertaining followers can be improved; and how?

Colonel J. A. Ruddell, 1-25th Regiment.

No; I can suggest no improved method for entertaining regimental followers.

Colonel H. S. Cochrane, v.o., Commanding 48th Light Infantry.

Yes; all followers should be attested and promised a small pension when worn out in the service, and family remittances made.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

I don't see how it can.

Lieutenant-Colonel M. Macgregor 1-18th Foot (The Royal Irish).

The mode of employing followers in the stations in which the troops are located is bad. Very few of the men so employed will accompany a regiment, even on a march of change of quarters. A better system is

to obtain them through their respective jemadars and from certain localities. The majority of the bhistics with my battalion are from the Agra district; the lascars from Fyzabad. These men serve cheerfully with the battalion, and can be depended on.

Lieutenant-Colonel A. Templeman, Commanding 1-21st Fusiliers.

From what experience I have had, I think the regiment employing all its own followers would be the best system.

Lieutenant-Colonel Daubeny, 7th Fusiliers.

No; the present system seems to work well.

Lieutenant-Colonel G. F. Walker, Commanding 1-12th Foot.

I am not aware of any better mode of providing followers than the present system.

Lieutenant-Colonel D. Warren, Commanding 2-14th Regiment.

No.

Lieutenant-Colonel G. W. Paget, Commanding 34th Regiment.

I am unable to suggest any improvement in the mode of entertaining followers.

Lieutenant-Colonel J. S. Hand, 44th Regiment.

Yes, by enlisting all followers up to the authorized establishment at each station.

Lieutenant-Colonel T. W. Hughes, 51th Regiment.

The present mode, which is regimental, works satisfactorily.

Lieutenant-Colonel C. B. Knowles, 67th Regiment.

I have no suggestion to offer with regard to the entertainment of *regimental* followers, *i.e.*, the quartermaster's establishment. With regard to the *kahars*, I consider they should be *carefully* examined by a surgeon before enlistment, and receive some training before joining regiments.

I do not.

Lieutenant-Colonel G. H. Parker, 92nd Highlanders.

I consider it would be difficult to make any suggestions under this head.

Major F. Stephen, 4th Battalion Rifle Brigade.

I do not consider the present regimental mode of entertaining followers can be improved, unless an organization of followers be introduced. I consider that it would be an advantage to the service that followers who are required to accompany regiments on service should be organized into lascar battalions and companies, and be interchangeable in regiments; and the same as regards departments.

Major J. S. Terry, 1-25th Foot.

No, except as regards the hiring of punkha-coolies. The present system of employing a contractor is full of abuses and radically bad. Under it, Government, the soldier, and the coolie are all swindled. Government pays for coolies that are never hired; and for the services of cripples, the halt, the maimed, and the blind, the old and infirm, and children, gives full wage, the contractor paying a mere nothing and pocketing the difference. The soldier is swindled of that rest and comfort which Government pays liberally to give him; for, in the first place, he does not get the service of the number of men to which he is entitled, and in the second, the coolies are many of them utterly unfit for the work. The coolie is swindled, not only in having to pay a large portion of his wages to the contractor, but in some cases in having to pay from one to two rupees for the privilege of being entertained.

The evil is deep-seated, and nothing short of interference by high authority can remove it.

The remedy is to abolish the contractor, and to make the punkha-coolie a Company's servant (as the cook is) for the time he is required, entertained and paid by the captain, with no go-between.

Punkha-coolies can always be found in any numbers. They live either in cantonments or in the neighbouring villages, and pull punkhas in barracks year after year. Nine-tenths of them are in the power of the contractor, and, under the present system, can get no employment save through him.

Let it be proclaimed in every cantonment and adjoining village that the regiment will deal with the coolie direct, and pay him such and such sum for so many months. Let each captain now assemble the coolies that happen to be at work in his company; take down their names and villages; and tell them that in future seasons they will get employment by coming to him, and that their wages will be such and such a sum. Above all, let them understand that for them there is no longer such a thing as a contractor. It stands to reason that they will gladly accept the new conditions and their pay without deductions.

To prove effectual, this system must be introduced with a firm hand and simultaneously.

The contractor must be cut adrift at once and for all. Both he and the coolie must understand that in future the one has nothing to hope for, the other nothing to fear.

Major H. P. Pearson, 12th Foot.

It should be remembered that there are others beside the contractor who have vested interests in the present system, and who would strenuously oppose reform.

I feel confident that the introduction of the scheme I have sketched, or of any other which would abolish the contractor and vest the entertainment and payment of the punkha-coolie in the captain of the company, would result in a saving—a large saving—to Government, in an increase of comfort and health to the soldier, and in very solid benefit to the coolie.

I do not speak without book. For years I have made it my business to ferret out the iniquities of this contract system; and I know that it is rotten to the very core.

When a contractor can unblushingly in writing offer Government Rs. 450 for the contract for supply of punkha-coolies for head-quarters and three companies of a British regiment for one season, there is presumptive evidence that that there is something wrong.

This was done last year in the case of the 39th Foot at Jhansi, and the correspondence will be found in the office of the Quarter-Master-General.

I cannot suggest an improvement.

I can suggest no improvement. I would leave them under regimental control.

I think the present mode satisfactory.

Yes, the company cooks, dhobis, blistics, mehters, &c., should be regular Government servants, the same as the tent lascars, "or, better still, if they could be enlisted," receiving after a certain number of years a small pension.

This would be an inducement for good men to join, and give Government a hold on them; so that when ordered on active service or to any unpopular stations, there would be less difficulty in getting these necessary servants to accompany the regiments. The pay of the cooks and dhobis would be charged against the men of the regiment, as at present.

If lascars, sweepers, and bildars can be dispensed with in camp (see answers 7 and 4), they should be entertained locally for each station instead of regimentally. This will save the cost of moving them and their families in relief by rail.

It is probable that conservancy can be more economically worked by a system of local contracts, as in England, than by the entertainment of a paid establishment.

Yes, by enlisting the followers and offering a small pension, say after 20 years' service; giving each man also some clothing, say one pugree, one coat, one pair trousers, one pair shoes, yearly. Employment would then be more sought after and would attract a better class, whose antecedents would bear investigation, and who would have too much at stake to become, as the present class undoubtedly are, the aiders and abettors of the men in all their most disease-producing malpractices.

6. Can they be so organized in peace as to make men less dependent and defenceless in war?

Colonel J. A. Ruddol, 1-25th Regiment.

I think they might be organized (armed and equipped) somewhat on the principle of our army hospital corps with much advantage.

Colonel H. R. L. Newdigate, Commanding 4th Battalion Rifle Brigade.

Doolie-bearers should be more under control and amenable to discipline.

Colonel H. S. Cochrane, v.c., Commanding 43rd Light Infantry.

If treated as above, they could be drilled in time of peace.

Lieutenant-Colonel T. Rowland, Commanding 1-56th Fusiliers.

I don't think so.

Lieutenant-Colonel W. D. Tompson, Commanding 1-17th Foot.

I think not, and that to attempt it would be pure waste of time. They should, however, be well clothed and furnished with shelter, so that they may be able and fit for the work for which they are entertained. On several occasions during the late expedition the regimental hospital establishment was suddenly and temporarily increased in the middle of winter by 200 or 300 doolie-bearers without tents or shelter of any kind being provided for them. Undoubtedly a better organization for the doolie-bearers on service is an absolute necessity. The mates are, as a rule, feeble old bearers, unable and unwilling to maintain discipline of

any sort. I would suggest that all doolie-bearers employed on field service should be organized into companies or some convenient unit, the men of which should be always kept together and be distinguished by some conspicuous mark, such as a distinctive puggree. Great inconvenience resulted from the impossibility of detecting, on the march, to what corps a bearer was attached, particularly as every man attempted to push on towards the head of the column where his services were least likely to be required.

If the followers were obtained from fixed localities, as mentioned in answer No. 5, they could be organized in peace, and taught to defend themselves in war.

I think not, but believe that arms in the hands of the generality of Madras servants would be useless.

I believe it would be useless to arm the class of men we get as followers in Bombay, as I do not think they would fight. Perhaps, if given a carbine and bayonet, a feeling of self-respect and security might be generated, which would in time grow into pluck.

I am unable to offer any practical suggestions in this particular.

Yes, it can be done, but much depends as to their caste whether a satisfactory result can be expected; and as there is the contingency of internal warfare to look to, it becomes questionable how far it would be advisable to break through the present spirit of dependence which the Native servant entertains towards his European master.

I think each Native follower on the strength of the regiment might be armed with a tulwar.

If the inducement of a small pension, according to length of service, were offered, I think they would readily enlist. They should be armed on active service and be partially trained.

Not further than by being armed with swords.

I would propose that they should be organized in divisions of 150 each in charge of a non-commissioned officer of the army hospital corps, to be put through a course of sword-drill and subjected to very strict discipline.

I should doubt it.

If the doolie-bearers and blistics were drawn more from the fighting classes, say from Oudh or the Punjab, they might with little trouble (under regimental supervision) be taught to defend themselves. They should be armed, and greater care taken in their selection (physically).

Yes.—They should be armed with a light strong dagger or hunting-knife, which they could conceal if necessary in their clothes. They should not be taken below a fixed standard of physique and strength suitable to their respective employments.

They should be drilled to understand orders and to use their daggers against swords, in Spanish fashion; some article of clothing being wrapped round the left arm for a shield.

If, by the question, an opinion is sought as to the expediency of arming followers, I reply that such would be harmful. I believe that in the late war an unarmed Afridi took a follower's tulwar from him and killed him with it; but I never heard that any follower successfully defended himself, or even tried to do so.

If all followers could be taught to keep silence and obey orders, the duty of protecting them would be easier than it is.

Advantage might be taken of the spring manœuvres of moveable columns to bring followers into some sort of discipline. Usually this is not attempted—at least such is my experience; and followers go from entourments to camp as on any ordinary march.

I see no reason why doolie-bearers should not be drilled sufficiently to make them take their doolies two, three, or four abreast (or any other number) by word of command. At present their only idea is to follow each other in "column of route," unless they happen to come to a narrow defile, where that formation would be peculiarly applicable, and then they crowd forward and block the road.

On almost every main line of communication doolies could easily travel two abreast; on the grand trunk road three could do so. The advantages to a force of such a saving of space are obvious.

It would be a great thing if Natives could be taught "the rule of the road." The utter want of this knowledge, and the confusion and

Lieutenant-Colonel M. Macgregor, 1-18th Foot (The Royal Irish).

Lieutenant-Colonel A. Templeman, Commanding 1-21st Fusiliers.

Lieutenant-Colonel Danbony, 7th Fusiliers.

Lieutenant-Colonel G. F. Walker, Commanding 1-12th Foot.

Lieutenant-Colonel D. Warren, Commanding 2-14th Regiment.

Lieutenant-Colonel G. W. Puget, Commanding 31th Regiment.

Lieutenant-Colonel J. S. Hand, 44th Regiment.

Lieutenant-Colonel T. W. Hughes, 54th Regiment.

Lieutenant-Colonel C. B. Knowles, 67th Regiment.

Lieutenant-Colonel G. H. Parker, 92nd Highlanders.

Major F. Stoppon, 4th Battalion Rifle Brigade.

Major J. S. Terry, 1-25th Foot.

Major H. P. Pearson, 12th Foot.

delay brought about in consequence, were daily illustrated in the late campaign. Mackeson's road is broad enough to admit of a string of laden camels passing a string of unladen ones, provided each keeps its own side of the road. As a fact, this never occurred; and it became necessary to restrict the use of the road to one string at a time. The result was delay to one of the convoys each day, besides making escort duty more irksome to the troops than it need have been had the camel-drivers been acquainted with and followed one simple rule.

There would be no difficulty in subjecting the followers of a regiment to a sort of rough drill and discipline, and the results, I feel sure, would be more than commensurate with the trouble bestowed.

Major J. H. Campbell, 33rd Regiment.

Hardly. If armed and roughly organized, they would cause much anxiety, as they would probably throw away their arms and run if there was any danger; and if there was no danger, they would use their arms to threaten and obtain loot.

Major J. D. Dyson-Laurie, 34th Foot.

I am afraid not. They will always, I fear, prove an encumbrance, and one which cannot be dispensed with.

Major W. H. J. Clarke, 72nd Highlanders.

Yes; if they were regularly enlisted, they might be taught a little drill and how to use a rifle, which would give them confidence.

They could also be kept in better order if enlisted. But I am afraid that there is not much to be done.

Major W. Galbraith, 85th Light Infantry.

No. "Le jeu ne vaut pas la chandelle."

Major G. S. White, 92nd Highlanders.

I think the first step towards their organization would be to give them a standing, as above. My experience is, that their chief danger lies in their fatuous disregard of the orders issued for their safety. A more certain tenure of employment, with its prospective advantages, would, I think, go far to decrease this danger.

7. Taking the list of followers attached to your regiment in succession, state how the duties performed by them are carried on at home?

Colonel J. A. Ruddell, 1-25th Regiment.

(By the words "at home," I presume is meant during the ordinary routine of barrack life.)

Bazaar chowdry, or kotwal and peons—supervision over the regimental bazaar and the Natives generally.

Puckalis and bhisties—supply of water to the non-commissioned officers and men and married people.

Sweepers—cleaning barrack out-building and the regimental lines generally; keeping the latrines, urinals, drainage, &c., in perfect order.

Bildars—attending to the filth-pits, dry-earth for latrines, carting away night-soil, urine, &c.

Colonel H. R. L. Newdigate, Commanding 4th Battalion Rifle Brigade.

Bhisties.—There are pumps in all barracks; water-carts are used in camps of exercise.

Melters.—The cleaning of barrack-rooms and barracks is performed by orderly men of companies and fatigue-parties (defaulters as a rule). Water-closets, and I believe now in many instances dry-earth closets, are in use, and the soil removed under local arrangements.

Bildars—by the pioneers and fatigue-parties.

Dhobis—by the soldiers' wives.

Cooks—by the soldiers.

Colonel H. S. Cochrane, V.C., Commanding 43rd Light Infantry.

"Tent lascars, cooks"—by soldiers.

Sweepers { "barracks and barrack squares" by soldiers.

{ privies by barrack department contract.

Washing—by soldiers' wives.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

One tindal; 8 lascars. Duties—care of tents, stores, ammunition. There are no tents to look after at home. The pioneers assist in care of stores, ammunition, &c.

Bhisties.—At home soldiers get their own water from the pump in barrack square.

Sweepers.—Orderly men are told off to keep rooms, &c., clean. Defaulters clean the barrack square, &c.

Bazaar establishment.—Not required at home.

Company cooks.—Two men per company told off.

Dhobis.—Soldiers' wives do all the washing.

Lieutenant-Colonel W. D. Tomp-son, Commanding 1-17th Foot.

Cooks.—The soldiers cook their own meals. As a rule, each company details two men as cooks for a month at a time, who prepare the meals under the supervision of a sergeant master-cook, who has himself been instructed, and who holds a certificate from the Aldershot School of

Cookery. The cook-houses in all large barracks are furnished with modern mechanical appliances of every description, and the rations are now prepared in a variety of ways. Twenty-five years ago the British soldier dined every day of his life on boiled beef. Soldiers are now taught to construct and use camp-kitchens. The ordinary Flanders camp-kettle is invariably used in these camp cooking-places.

Latrines and sanitary arrangements.—The barrack-rooms, stairs, passages, &c., are kept clean by the men themselves. Brooms, scrubbing-brushes, &c., are supplied by the barrack department for this purpose. The privies, barrack square, surface drains, &c., are kept clean by the regimental pioneers. At Aldershot the soil is carried off through covered-in sewers, which are flushed by water from the reservoirs near Caesar's camp. At other barracks the soil is sometimes removed by night-men in carts constructed for the purpose.

All water required is pumped by the soldiers themselves. Some barracks are furnished with tanks and force-pumps; at others water is laid on. Water is conveyed to the top of the permanent barracks at Aldershot in pipes from the higher elevation near Caesar's camp.

The men's washing is generally done by the soldiers' wives on the married establishment. The distribution is made by the captain, who apportions so many men's washing to each woman employed. Wash-houses are constructed in every barrack, with boilers.

The ablution-rooms in English barracks are very similar to those in this country. Water is generally laid on by leaden pipes fitted with brass cocks. The washing basins are "barrack furniture," and are of iron.

The regimental canteen takes the place of the Indian bazaar and coffee-shop.

Lieutenant-Colonel M. Macgregor,
1-18th Foot (The Royal Irish).

Lascars—by fatigue-parties and orderlies.
Bhisties—by room orderlies.
Barrack sweepers—ditto.
Latrine ditto—by defaulters and fatigue-parties.
Cooks—by trained soldiers under a master-cook.
Dhobis—by soldiers' wives.

Lieutenant-Colonel A. Templeman,
Commanding 1-21st Fusiliers.

Bhisties and pukalis are represented by pumps, water-taps, &c.
Toties—by the European latrine systems.
Punkha-pullers.—No equivalent.
Hospital establishment.—At home no doolie-bearers.
Barrack sweepers, cook-boys, &c.—All such work at home are done by soldiers.
Officers' servants.—The same, *viz.*, soldiers at home.

Lieutenant-Colonel Danbeny,
7th Fusiliers.

(a) Hand-bhisties distribute the water for drinking and other purposes. At home water is often laid on in each individual quarter. In places where there are only wells and pumps, the soldiers work them and distribute the water.

(b) Barrack sweepers clean the barracks, parade-ground, &c. At home performed by the soldiers.

(c) Halalcere bhisties and sweepers remove all excrement and refuse water from barracks. At home there is generally a system of drainage, the flushing of which is performed by the soldiers. Where there is no drainago for the closets, the filth is removed by professional night-men.

(d) Chowdry and bazar peons.—At home these useful men are not required.

(e) Filth carts with bullocks and drivers carry away all sweepings, &c. At home the men carry the sweepings to the ash-pits, the contents of which are afterwards removed in carts.

(f) Cooks.—At home the men do their own cooking.

(g) Tent lascars.—Dispensed with at home.

(h) Doolie-bearers.—At home in barracks sick are carried by their comrades. On field-days they are put into an ambulance.

(i) Dhobis wash for the soldiers in India. At home they do their own washing, or soldiers' wives wash for them.

Lieutenant-Colonel G. F. Walker,
Commanding 1-12th Foot.

Quartermaster's establishment, consisting of bhisties, sweepers, and klasis.—At home the water is always brought from the pumps by the men themselves, who also strike and pitch their own tents. The conservancy is generally managed by a contractor.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

1 tindal	} duties performed by the soldier.
8 lascars	
16 pukalis	
5 bhisties	
16 sweepers	

Lieutenant-Colonel R. Cuthbert,
Commanding 2nd Battalion 15th
Foot.

- | | | |
|-------------------------|-----|---|
| 15 conservancy sweepers | } | latrines emptied by contract; bar- |
| 4 bildars | | racks and surroundings kept clean |
| 5 filth-cart drivers | | by fatigue labor from the troops. |
| 1 chowdhry. | ... | duties performed by provost or police |
| 1 mutsuddy | ... | sergeant. |
| 2 flagman and weigh- | } | not necessary in England. |
| man. | | duties performed by soldiers. |
| Cooks and dhobis | ... | cooks' duties performed by the soldier ;
dhobis' work performed by the sol-
diers' wives. |
- 9 lascars—by soldiers.
16 puckali bhisties—by orderly men.
10 halalcors—orderly men.
16 barrack sweepers—defaulters.
12 latrine sweepers—defaulters.
1 chowdhry—regimental police.
2 peons—orderlies.
1 hildar—contractor.
4 filth-cart drivers—contractor.
6 well bullocks and drivers—orderly men and defaulters.
7 plunge-bath drivers—none.

Lieutenant-Colonel G. W. Poget,
Commanding 34th Regiment.

Tindals and lascars in quarters are employed in the care and preservation of the camp equipage, clothing, necessaries, and general fatigue duties connected with the quartermaster's department.

Puckalis and bhisties look after water-supply.

Sweepers and bildars look after cleanliness of the barracks, lines, and general conservancy.

Kotwal, chowdhry, and mutsuddy look after the general supervision of the bazaar supplies and requirements.

Flagman and weighman (two chuprassies paid by Government) attend to bazaar duties.

Lieutenant-Colonel J. S. Hand,
44th Regiment.

- | | | |
|--------------------|-----|--|
| Moonshee | ... | none at home. |
| Chowdhry and peons | ... | by orderlies. |
| Puckalis | } | by orderly men of rooms and cooks |
| Lascars | | from barrack pumps. |
| Sweepers | } | by men of each tent and baggage guard. |
| Toties | | by daily or permanent fatigue men |
| | } | under a non-commissioned officer. |
| Latrines, &c. | | by soldiers according to circumstances. |
| | } | emptied under warrant office contract |
| | | under the barrack department. In
some stations the soldiers are paid
contract rates for removal. |

The men cook for themselves, shave themselves; and their washing is done by the women of the regiment.

Lieutenant-Colonel T. W.
Hughes, 54th Regiment.

Tindal and lascars—duties performed by troops, when camp equipage is in use.

Puckalis and bhisties—by troops, conditions of water-supply being different.

Sweepers, company—by troops.

Sweepers, conservancy, as well as bildars and cart-drivers—duties one by contractors, conditions being different.

Chowdhry, mutsuddy, and flagmen—duties done by the troops.

Lieutenant-Colonel C. B.
Knowles, 67th Regiment.

Bhisties to supply water to men. At home water laid on in barracks; carried to cook-houses by orderly men. Lavatories provided in all barracks.

Two dhobis.—Men's "washing" at home performed by the women of the regiment in wash-houses erected for the purpose.

Three toties.—At home latrines are emptied by contract.

Four sweepers.—Brooms and brushes supplied by control department, and the barrack-rooms and square swept and kept clean by soldiers.

Five Native cooks.—Soldiers' meals cooked by one or two men from each company, under superintendence of a master-cook—a non-commissioned officer trained at Aldershot. Cook-houses, fitted with ranges, are in close proximity to the men's quarters.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

Soldiers at home do everything for themselves except washing their clothes. That is generally done by the wives of their comrades.

Major F. Stephen, 4th Battalion
Rifle Brigade.

The whole of the work performed by the following, *viz.*, cooks, dhobis, bildars, mehtors, tent lascars, and bhisties, is done by the men themselves, with the exception of washing, which in peace time is done by the women of the regiment. In the field and during the autumn manoeuvres in England it is invariably done by the men themselves.

Major H. P. Pearson, 12th Foot.

Puckalis and bhisties.—At home water is nearly always laid on in barracks and camps, such as Aldershot, by pipes connected with reservoirs, or with the water system of the town. Where this is not the case, there are pumps in the barrack square.

Sweepers.—The men sweep, wash out, and keep clean their own barrack-rooms, furniture, fittings, and windows. Officers' servants (soldiers) do the same for their masters' quarters. The pioneers look after the barrack yards and drains and do all out-of-door work, assisted by the prisoners. The barrack latrines are usually connected with the main sewage system of the town, large permanent camps having sewage pipes of their own. At Aldershot these pipes lead to a model farm, where the sewage is utilized. The little work that is required in latrines is done by the pioneers, who also attend to the trenches in any temporary camp, the trenches having been dug by fatigue-parties. Ash-pits are periodically cleaned out by contractors.

Cooks.—There is a trained sergeant master-cook in every regiment at home, and one man a company as cook. The men are divided into messes; a "mess" usually consisting of the men of one room. The men peel their potatoes, wash their vegetables, and do all preparatory work; and the company cooks do the cooking under the superintendence of the sergeant master-cook. The meals are carried to the rooms by the orderly men of messes.

Dhobis.—At home the washing of a regiment is done by the soldiers' wives, who are paid by the men at the rate of $\frac{1}{4}$ d. per diem each man.

Syces and grass-cutters.—Officers' chargers are attended to by grooms selected from the men of the regiment. Mounted officers receive forage allowance at the rate of 1s. 10d. each charger per diem.

Kahars.—At home the sick are carried in ambulances, horsed.

For the removal of sick short distances stretchers are used. These are usually kept in guard-rooms, and are carried, when in use, by four men.

Bhisties—by the soldiers.

Sweepers—by the soldiers.

Toties—by contract.

Dhobis—by soldiers' wives.

Cooks—by soldiers.

There being no followers at home, the duties are all performed by the troops.

Cooks.—At home there are two cooks per company, who are changed monthly and struck off all duties. These men are under the instruction and supervision of the sergeant master-cook and his assistant, who are trained at the School of Cookery at Aldershot. The meals are brought from the cook-house and divided by the "orderly men" of rooms or messes.

The experiment of men cooking for themselves has been tried at Dalhousie Convalescent Depot, and I do not see why it should not be the rule at all hill stations. The men cook for themselves in many colonial stations, which are hotter than the hills of India.

Dhobis.—The work is done at home by the soldiers' wives.

Bhisties.—Water is drawn or pumped, according to the nature of the barracks, by fatigue-parties or defaulters, or by individuals as they require it.

Sweepers.—The removal of soil is done by contractors. The conservancy arrangements of cleaning the seats and floors of privies, using disinfectants, and keeping drains in order, are done by the pioneers.

The sweeping and washing of rooms is done by the "orderly men"—a fatigue duty taken weekly or daily.

Tent lascars.—Tent not kept in regimental stores at home; served out to regiments when going into camp. The tents are looked after by the men themselves.

Bhisties.—Water laid on in every barrack-room. The men have to bring it for themselves for cooking and other purposes.

Cooks.—Cooking men of each company employed under the superintendence of a sergeant master-cook.

Dhobis.—Washing done by the wives of the married men.

Sweepers and bieldars.—The barrack-rooms and barrack square kept clean by the orderly men and pioneers of each company. In most barracks now there are proper water-closets, and the above are cleaned by the conservancy belonging to the town.

The bazaar establishment, kotwal, &c.—Everything is sold in the regimental canteen, both in the way of eating and drinking. This is under the superintendence of a sergeant and the usual regimental committee.

Major J. H. Campbell, 33rd Regiment.

Major J. D. Dyson-Laurie, 34th Foot.

Major J. K. Shaw, 68th Light Infantry.

Major W. H. J. Clarke, 72nd Highlanders.

	Description of followers.	Manner in which the duty is performed in England.
Major W. Galbraith, 85th Light Infantry.	Lasenas	In camp by soldiers. Camp equipage is not retained by regiments in quarters or on ordinary movements by rail.
	Bhisties	Water-drains are laid on in most barracks; in some pumps are still used. Water-carts are supplied for flying columns. In all cases the troops draw for themselves.
	Sweepers	By civilian contractors. Stable-litter is generally sold, and its value credited to the public; cook-house refuse is sold by regiments and the proceeds applied to the purchase of fatigue dress for the cooks. The contractors are paid for the removal of night-soil. The rooms are swept by the orderly men of companies, and the barrack-grounds are kept clean by fatigue-parties.
	Bildars	In camp the troops dig and fill in latrines and burn or bury all refuse.
	Cooks	By the troops. In barracks there are generally but two kitchens per regiment, furnished with large boilers, cooking range, &c. In camp the food is cooked in covered kettles, in field kitchens (arrow-head pattern) dug by the troops.
	Kahars	... By the ambulance train.
	Dhobis	... By soldiers' wives.

I may add that my regiment was under canvas for nearly two years at one time in South Africa, and that the whole of the duties performed in India by Native establishments were satisfactorily carried on by the soldiers.

Each man washed his own clothes. Water was drawn by the orderly men of companies.

Two soldiers per company cooked, and when marching formed part of the baggage-guard.

The pioneers looked after camp equipage, and fatigue-parties attended to conservancy arrangements.

Major G. S. White, 92nd Highlanders.

The puckali and bhistie work is performed by the soldiers themselves, taking the duty in turn in each barrack-room. As water is always laid on, they have little or no distance to carry it.

Sweepers and bildars' work is also done by the soldiers, the soil being removed in night-carts.

The soldiers cook for themselves.

The soldiers' wives do the washing.

This question seems to lead up to the consideration of how far the same system could be made to obtain in India. It ought to be borne in mind that the men actually employed, as above shown, are, to all intents, "followers" for the day or week—in fact "of parade." The attenuated parades of battalions at home could be largely accounted for under the head "Men absent on regimental employ." The training season in India is very short, considering the ever-increasing number of different kinds of instruction which a soldier has now to go through.

Captain H. M'L. Hutchison, 1-14th (Prince of Wales' Own) Regiment.

Men are found easily in every regiment to volunteer to perform every duty and all work that is required, a very few receiving extra pay.

8. Is the issue of cloth clothing for British troops necessary in all parts of India ?

Colonel J. A. Raddell, 1-25th Regiment.

I have only experience of certain stations in the North-Western Provinces, Oudh, and Punjab. I am of opinion that in these provinces cloth clothing is necessary.

Colonel H. R. L. Newdigate,
Commanding 4th Battalion Rifle
Brigade.

I believe that there are few, if any, parts of India where it is necessary, and that a yearly issue of serge clothing and two suits of khaki would be more beneficial.

I think that white clothing in summer should be discontinued and khaki substituted, which would also be available for marches and active service. Most regiments have adopted it; and having white clothing besides only unnecessarily increases the soldier's kit.

Colonel H. S. Cochrane, F.C.,
Commanding 43rd Light Infantry.

Certainly the extremes of climate are great, even between day and night, in the same stations. I consider serge clothing a necessity in the hottest parts of India.

Lieutenant-Colonel T. Rowland,
Commanding 1-5th Fusiliers.

I don't think it necessary in any parts of India. Serge clothing is much more suitable to the climate. The cloth is rarely worn.

Lieutenant-Colonel W. D.
Tompson, 1-17th Regiment.

I should say not. At any rate the present system of issuing to every man of British infantry a cloth tunic and a pair of cloth trousers every other year, and a serge frock and pair of serge trousers on alternate years, might be altered with advantage. The cloth tunics are very little worn in any part of India, and are often as good as new when the men become entitled to a fresh issue. The cloth clothing would last good for three years, and an issue of serge clothing, with the usual compensation, on two consecutive years would be far more serviceable and be acceptable to the men.

Lieutenant-Colonel M. Macgregor,
1-18th Foot (The Royal Irish).

Cloth tunics are not absolutely necessary for all parts of India, but should be retained as an article of full dress.

Cloth trousers are not necessary. Serge should be issued instead.

Lieutenant-Colonel A. Temple-
man, 1-21st Fusiliers.

In all the stations (Madras) that I have been in cloth clothing is quite useless.

Lieutenant-Colonel Danbary,
7th Fusiliers.

Yes, cloth or serge. Although white clothing is principally worn in Bombay, even here a serge suit is necessary in the cold weather, at times during the rains, and for purposes of fatigue.

Lieutenant-Colonel G. F. Walker,
Commanding 1-12th Foot.

In my opinion there are many stations in India, more especially in those below Allahabad, where serge clothing is far preferable to the very thick cloth tunics and trousers now issued.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

No; the serge clothing is sufficiently warm for all stations.

Lieutenant-Colonel G. W. Puget,
Commanding 34th Regiment.

From my experience cloth clothing is quite unnecessary and is a great encumbrance. In the plains the tunic is not worn more than a dozen times in the year.

In point of economy, there would be a considerable saving if cloth clothing was discontinued.

	Rs.	A.	P.
A rank and file tunic costs	...	8	0 0
Cloth trousers	...	4	6 0
		12	6 0
Serge frock	...	4	4 0
Do. trousers	...	3	8 0
		7	12 0

Difference between serge and cloth clothing
rank and file

4 10 0

Or in a battalion 850 strong about Rs. 3,920.

As regards weight and transport on a march—

850 tunics and cloth trousers weigh about 4,320 lbs., or a load for nearly 11 camels.

I would suggest one suit of serge annually, one suit of serge extra every second year for best wear.

A regiment in the hills might be served with a waistcoat with sleeves made of navy serge.

Two pairs of drawers is to be kept by the soldier after first issue, or a waistcoat made out of an old serge. Then a small compensation might be made to the soldier.

Lieutenant-Colonel J. S. Hand,
41th Regiment.

Certainly not in Southern India, where the cloth tunic is worn but twice a year, viz., at general's inspection and on the 1st of January.

Lieutenant-Colonel T. W. Hughes,
61th Regiment.

I think it unnecessary south of the Punjab.

Lieutenant-Colonel C. B.
Knowles, 67th Regiment.

Certainly not in the Madras presidency, unless it is considered essential to retain the tunic as full dress on ceremonial parades. In Afghanistan

also in a way convert the trousers into knickerbockers, getting rid of the drag on the knees when wet; and they also protect the trousers, which get soon shabby from being wetted with dew or otherwise and then covered with dust. Hard drill or fine canvas would answer, fastened by loops.

The helmet seems to me the worst shape of head-dress for protecting the head (at least its most vulnerable part) from the sun. The sides of the head and nape of the neck are exposed. The brim is shorn off where most required, from the temples and over the ears. If the helmet is large enough to be pressed down on the head, the vision is limited. I ran out in the sun a good deal myself, and find a broad-brimmed hat with air-chamber arrangement and a puggree the best protection from the sun.

Lieutenant-Colonel Daubeny,
7th Fusiliers.

I think it is unnecessary to issue tunics to the men as often as at present. The soldier seldom wears his tunic; and, generally speaking, when the time arrives for the issue of the new tunic, the old tunic is as good as if newly issued from the stores. I therefore suggest that the tunic should only be issued every four or five years, which would be a saving for the Government and for the soldier, provided he received a suit of serge in other years. The soldiers would welcome the change; for they require a serge every year, and in the years when they receive a tunic they have to pay for the serge themselves.

If not too expensive, I would issue belts of brown leather (the same as is used for saddlery) instead of the present kind, as it has always appeared to me absurd to issue belts which on active service cannot be kept clean. The waist belt should be broad, so as to afford support.

The canvas of which the valise is made might be of better quality, and the composition which covers it might also be improved on, as now it quickly cracks, and in a short time the valise ceases to be waterproof.

I consider the cut of the present serge to be ill-adapted for service, and would substitute a kind of Norfolk jacket, drawn in at the waist by a band and furnished with two or three pockets.

As the traditions of our army point to the retention of red, I would issue a great-coat made of heather mixture, to be made lighter than the present coat, and to be waterproof. The coat would wear well, be admirable for concealment, and could be used for outpost work, &c.

Lieutenant-Colonel G. F. Walker,
Commanding 1-12th Foot.

I would suggest, as regards uniform, that the present thick cloth tunics and heavy winter trousers be discontinued in India, and serge frocks and trousers as now issued be substituted. In those stations in Upper India and the Punjab where it is considered desirable for the men to have a warmer dress, I consider a good puttoo Norfolk jacket, made sufficiently large to be worn over the serge, would answer admirably. If warmer trousers are requisite than the serge, I consider loose puttoo breeches and puttees would be suitable as well as economical.

The present valise equipment seems to answer fairly well; but I have not yet seen the Oliver equipment, which is, I believe, now on trial at home.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

As it cannot be predestined where the British army in India may have to act, and a general state of preparedness being incumbent upon it, I do not think any local change on these points advisable or called for; though I would suggest that, as sudden emergencies may arise, certain rules might be promulgated in anticipation to save delay; these rules showing definitely what portions of uniform or equipment are to move with the battalion in first line, according to its orders being to proceed north, south, east, or west, or even what portions could be left behind altogether.—I allude to the quantities of white clothing, khaki clothing, serge clothing, cloth clothing, black bags, kit bags, and valises in possession of the British soldier.

The ball bag at present in use is unserviceable. When a man lies down to fire, his ammunition falls out. I would suggest a waterproof cover for the helmets.

Do away with the tunic. I think the valise equipment well adapted for India, though valises would have to be carried for the soldier during most seasons of the year.

I think an annual issue of serge coat and trousers more useful than the alternate issue of serge and cloth clothing in all stations south of the Punjab.

For summer, khaki seems to me preferable to white drill. It can now be obtained of Indian manufacture with a fairly fast dye, which greatly obviates the former objection to its use in peace times.

In regard to equipment, I see no benefit in supplying the soldiers in India with either valise or knapsack.

Lieutenant-Colonel G. W. Paget,
Commanding 34th Regiment.

Lieutenant-Colonel J. S. Hand,
44th Regiment.

Lieutenant-Colonel T. W. Hughes,
54th Regiment.

He parades a few times during the cold seasons in heavy marching order and for the general's inspection; but I have never seen nor heard of his carrying his pack on service or on the march.

He is already provided with a small canvas bag and a "valise bag" in which to carry his kit; and the encumbrance of the valise or knapsack and the expense of providing it are counterbalanced by little advantage, save the traditional connection between the soldier and his pack.

Lieutenant-Colonel C. B. Knowles,
67th Regiment.

No suggestion with regard to uniform.

In the valise equipment an improved method of carrying the expense pouch (the ammunition bag) is much required.

Water-bottle too heavy for quantity of water carried.

Haversack too large.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

I would recommend the water-bottle (sodawater shape) being discontinued, a flatter one being substituted.

Major F. Stephen, 4th Battalion
Rifle Brigade.

In equipment, by the issue of the "Oliver equipment," which seems to meet all requirements and to be a considerable improvement in every respect on the present valise equipment.

The water-bottles now issued are on service almost useless, being too small and liable to break. Tin water-bottles similar to those worn by the Rifle Brigade during the recent campaign, but covered with felt instead of flannel, which could be done at a trifling cost, would be a great improvement. They are light, hold a quart of water, and from their shape fit into the body, and are in every respect better than the old leather-covered bottles now issued.

By the issue of a bell-tent, double fly, curtain three feet high, doors to overlap well, poles to be jointed—each tent, with the poles, *battis*, and lantern to be one mule load, and made large enough to hold 20 men. The *battis* to be made of block-tin, and a lid deep enough to be used as a basin. A small lamp giving better light than the present one and made to fit into the *batti* might be devised.

Warren's cooking-pots would be an improvement on the present *degchi*, or, at all events, vessels of block-tin, flattened on one side so as to fit a mule, would be better than those now in use.

Entrenching tools.—Equal numbers of spades and shovels, and all tools to be sharpened before issue.

Every man to be in possession of a water-proof sheet, which should be wider than those recently issued, so as to be utilized as a shelter tent; eyelet holes to be further from the edge than at present, so as to lap over.

Staff sergeants, buglers, and pioneers to be armed on service with revolvers.

In dress, by the adoption for one thing of Hawkes' patent cork helmet instead of the wicker helmets now being issued to the troops, which is more unsightly, heavier, and, as it becomes old, is a most successful species of bug-trap. The cost of the cork helmets is Rs. 5. In a battalion which brought them to India, and in which they have been in wear for nearly six years, they are still in good condition.

As Rs. 4 (compensation) is paid every two years, no saving is effected by the use of the wicker helmet.

I have seen both tried for a number of years in India, and can speak with confidence on the great advantages possessed by the one I recommend.

I write the above on the supposition that the wicker helmet is the one now sanctioned for use in India.

Cotton shirts should be done away with, and flannel only issued. Khaki, if a suitable and permanent dye can be found so as to avoid different colors after each washing, might be substituted for the white clothing issued in the summer.

It would be a considerable saving in point of pocket to the soldier, and would also reduce the size of his kit—a matter of some importance on the march.

Major F. S. Terry, 1-25th Foot.

I am of opinion that the peak of the regulation helmet is made to lie too close to the forehead, whereby the circulation of the air round the temples is much impeded, occasioning discomfort and danger in hot weather. Both peak and the curtain of the helmet interfere with the firing, standing and lying-down positions, by reason of their being made to lie too close and low. Efficiency in this article of dress is of great importance in India.

Boots.—My experience leads me to think that the British soldier in India is heavily handicapped in marching by the excessive stiffness and weight of his boots. This is a point of the very first importance in dress. A soldier subjected to unnecessary fatigue is prone to discontent, and soon goes sick; and I have no hesitation in asserting that on a march more fatigue is due to the boots a man wears than to the weight he carries if duly properly distributed.

Ammunition.—The weight of this in India, where the valise is carried for a soldier, is thrown on the waist and hips; but I think it would be better if it could be shifted at will to the shoulders by connecting straps at the back as well as in front.

Water-bottle.—For India a quart of water is required in my opinion; though the men should be taught to drink as little as possible on the march. The tin water-bottle used in the Native army in India, covered with coarse flannel or felt, is lighter and better adapted for service than the leather-covered sodawater bottle issued to British troops.

Bayonet.—The present pattern cannot be used by itself as a weapon of offence, as the socket makes a bad handle. This, I am of opinion, is a great defect: a good handle, as in the sword-bayonet, is necessary. For service in a close country I would recommend the issue of a dagger to every soldier for use in an emergency, especially skirmishing and on convoy duty.

Clothing generally.—Commanding officers are not, in my opinion, held sufficiently responsible for cutting down the clothing of the men to fit tight, contrary to regulation. It is not uncommon to see the clothing of a whole regiment spoilt for service by tailoring, while the commanding officer is praised for its smartness of appearance, which under our present system of supervision is so often accepted for real smartness. Surely all advocates of appearances whose opinions are worth having would allow that those appearances should be built upon, and be additional to, *efficiency*, not supplanting or detracting from it, in however trifling a degree?

Major H. P. Pearson, 12th Foot.

I will deal with the query as regards men's uniform in answering the next question.

The soldiers' equipment might be improved in several items. Brown leather belts should take the place of the present pipe-clayed ones, and "the expense pouch" should be abolished in favor of "bandoleers," like those worn by the Bhopal Battalion in the late campaign. These were not fitted on to the coat, but on a sort of waistcoat, with neck and waist straps. They were thus removable at will. Twenty rounds might easily be carried in two rows of five each on either breast; twenty more might be carried on the waist-belt; ten on each side of the clasp.

The sodawater bottle covered with leather, which the soldier now carries, is objectionable in several ways. It is heavy in itself, holds exceedingly little, is of bad shape, and brittle, and, if struck by a bullet, would probably wound its owner very severely, even if the shot missed him.

In its stead should be given a tin water-vessel covered with thick felt, much the same as those used by the Afghan troops, and left by them in great numbers at Ali Musjid.

Sashes should be abolished throughout. Officers should wear the "Sam Browne" sword-belt in brown leather, with small binoculars fitted to it. On service, a revolver (with heavy bullet) should also be carried on the belt and a small ammunition pouch.

Metal scabbards for swords should be replaced by wooden ones, covered with leather and tipped with metal.

Officers should wear bronzed curb-chains on the shoulders in lieu of the gold cord now worn.

Major J. H. Campbell, 33rd Foot.

As regards the uniform, a serge frock and pair of serge trousers should be issued annually and no cloth clothing. The soldier should be required to keep two suits of serge always in his possession—one for every-day work and the other for full dress. The difference in value between the tunic and serge frock might be expended in making the latter rather smarter by a little more piping and the cuffs the same color as the facings.

Major J. D. Dyson-Laurie, 34th Foot.

The tunics are hardly ever worn in India, except for church parade and the general inspection.

Major J. K. Shaw, 68th Light Infantry.

I think every soldier should have a pair of leather leggings, as at home. The want of them is felt in the rains and on service.

Major W. H. J. Clarke, 72nd Highlanders.

I think that brown leather should be used for the equipment of the British army in place of the present white belt.

Instead of the present red serge coat, a loose easy coat in the shape of a Norfolk jacket of some drab or grey color would be a great improvement. The red serge coat is not fit for service.

The present haversack is not fit for service. It cannot stand the wear and tear. I should recommend some stronger material than that now used.

I should say the material used by game-keepers in the bags used by them to carry cartridges would be good, if it could be made up somewhat light. The material is called "tan canvas."

Some better means of carrying ammunition on service are very desirable. The present pouch is heavy and cumbersome, and will not contain the quantity of ammunition required. The men have to carry ten rounds of ammunition in their havresacks.

I have not seen the Oliver equipment; but I should say it would be a great improvement.

Major W. Galbraith, 85th Light Infantry.

Time does not permit me to enter as largely into the question of personal and regimental equipment as I could wish. I would, however, suggest—

(1) *Equipment*.—That each regiment should carry with it, on mules, 24 pickaxes, 24 shovels, 4 crowbars, 16 felling-axes, and 48 bill-hooks, which would be sufficient for all ordinary demands.

(2) The issue of a service pouch, in lieu of one of those at present worn, made on the pattern of a "sportsman's belt," but closed beneath to prevent the bullets becoming loose, and capable of holding 10 separate cartridges. In the ordinary pouch loose cartridges deteriorate, and are liable to fall out if the soldier doubles or lies down to fire; and it is important, especially on escort or night duty, that they should be always ready to hand.

Uniform: clothing.—Extra serge clothing should be issued instead of cloth (see answers 8 and 10).

Boots.—The sewing of the ammunition boot is too loose. Dust and sand work in between the stitches, and the foot is engrained with dirt and galled. The upper leather is too stiff, and impedes the action of the ankle.

Major G. S. White, 92nd Highlanders.

This is a big question, to which I have not applied the special study which would justify me in recording an opinion. Under the head "equipment" I would mention the unwieldy nature of some of the entrenching tools in present use.

The pickaxe is, without handle, about eleven pounds. One of half the weight would produce double the effect in the hands of an average soldier. The shovels are also a great deal too heavy. It would be true economy to have both made of better materials. The saving in carriage is evident.

10. Would you recommend the issue of a service suit of clothing made of cheap and durable material to be worn on service in the field, instead of the present uniform?

Colonel J. A. Ruddell, 1-25th Regiment.

Yes, I would recommend the issue of a strong suit of khaki-color material for service with puttees for the legs. Officers to wear the same, with sword-belts of buff leather of the pattern known as "Sir Sam Browne," with khaki havresacks, leathern scabbards for their swords and field-glasses; also water-bottles as served out to the men. Mounted officers to wear puttees also, with regulation hunting spurs.

Colonel H. S. Cochran, v.o., Commanding 43rd Light Infantry.

The Zouave dress, with a couple of flannel shirts and drawers, would be quite sufficient.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

Yes; I think without exception every regiment in the late war adopted khaki. A khaki suit, made of strong drill and loose enough to go over the serge clothing, suits any climate.

Lieutenant-Colonel W. D. Thompson, 1-17th Foot.

It would depend a good deal on the character and locality of the intended campaign. I maintain that true economy points to clothing and equipping a soldier at all times in a dress suited to his duties in the field as well as in quarters, or in one at all events requiring only slight modification to adapt it to the exigencies of modern warfare. I have remarked fully on this question in my report mentioned in answer 9.

Lieutenant-Colonel M. MacGregor, 1-18th Foot.

I strongly recommend the issue of a suit of this description of clothing, not only for field service, but for all regiments. Some arrangement might be made for the issue of a suit annually by Government. The value of the cloth trousers which are not actually required might be advantageously expended in this way.

Lieutenant-Colonel A. Templeman, Commanding 1-21st Fusiliers.

I would substitute a stronger material for the *white* clothing usually worn and a dull color. The serge clothes seem to be useful.

Lieutenant-Colonel Daubeny, 7th Fusiliers.

I consider the every-day dress of the soldier should be such as is fit for service in the field. And if the present serge is not (either from color or other causes), the sooner it is abolished the better.

Lieutenant-Colonel G. F. Walker, Commanding 1-12th Foot.

I am decidedly of opinion that the issue of a suit of the description I have alluded to in the last reply would be desirable on service.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

In replying to this, I would refer to what I have stated above; for internal warfare or moving into the hills in the spring I would recommend the issue or rather the maintenance of a strong suit of khaki clothing, under which one or two flannel shirts and cholera-belt can be worn. This class of clothing is already in possession of many British regiments in this country, worn by them for the purpose of saving their serge and white clothing. Instructions in the new tactics imposed by the present infantry arm demanding much kneeling and lying-down upon the part of the soldier, it thus becomes a question how far white clothing should be retained for the sake of appearances, or yarn-dyed khaki be substituted for the sake of utility.

Lieutenant-Colonel R. Cutlibert,
Commanding 2-15th Foot.

Yes.

Lieutenant-Colonel G. W. Paget,
Commanding 34th Regiment.

I am of opinion that a suit for service would be very advisable as a matter of economy to the soldier; material puttoo.

Lieutenant-Colonel J. S. Hand,
44th Foot.

I would recommend annual issue of a suit, as suggested in the question, to be worn on all ordinary duties, parades, &c., in cantonment as well as on service in the field, and a biennial issue of the red serge frock for review, parades, guards, &c.

Should it be considered necessary to retain the tunic, a six-yearly issue would be ample in Southern India.

I would have the trousers of the coarse suit made of the same material as the coat, loose, with khaki canvas gaiters. The suit, too, should be khaki color.

Even if compensation, as at present, was given to the soldier, the Government would be the gainer if some such system of clothing were adopted.

Lieutenant-Colonel T. W. Hughes,
54th Regiment.

For campaigning in the plains, nothing can be better than a suit of English jean, khaki colored. It can be made up, including helmet cover, for about five rupees.

This would not supersede the serge suit for night duties.

Lieutenant-Colonel C. D. Knowles,
67th Regiment.

I consider in hot or temperate climates the troops should carry serge suits in their kit, and should receive a marching suit made of *strong* drill, procurable at the mills at Cawnpore. The drill to be of khaki color.

The coat to be provided with breast-pockets, similar to those in Norfolk jackets: outside pockets catch the lever of the rifle.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

Yes, and one pair of puttees.

Major F. Stephen, 4th Battalion
Rifle Brigade.

Most certainly; the present uniform is on service unsuitable in color, shape, and material. A Norfolk jacket, something similar to that worn by the 10th Hussars (than which nothing can be neater or more workmanlike), would be a very great improvement. It should be made with great pockets outside with flaps; and as it is gored in front of the shoulder, it gives freedom to the chest, while the pockets are not only useful, but add materially to the comfort of the soldier on service; whereas with the present uniform he can carry absolutely nothing. The color should be khaki, and in material either serge or puttoo. Trousers of the same color and material should be issued, and puttees. Two suits would be ample.

Major F. S. Terry, 1-25th Foot.

Yes, khaki-dyed cotton drill; and that it should be cut loose enough to go over the serge clothing in cold weather and be permitted to be worn as a fatigue dress in quarters.

Major H. P. Pearson, 12th Foot.

I would have a "service" suit to be worn everywhere, not alone in the field. The first thing every regiment does when ordered on service in India is to provide itself with a new uniform of that color which is universally allowed to be the best for fighting purposes—"khaki." I would do away with scarlet altogether, except as a ball dress for officers. The color is retained in the British army in obedience to sentiment and in defiance of reason. We have survived the extinction of the "wooden walls of old England," and scarlet uniform should follow them. The conditions of an Indian climate demand a warm uniform as well as a cool one. Both should be of khaki, and there should be no other.

The cold-weather uniform should be a loose fitting Norfolk jacket of the same kind of material as is worn by the Central India Horse, but more of a khaki color.

Trousers of the same, cut fairly, but not too loose above the knee, and to fit the calf of the leg below.

Gaiters of brown flax cloth, like those worn by the men of 11-9th Royal Artillery (Mountain Battery).

Such a dress, supplemented by the warm cardigan and drawers recommended in my reply to question 8, would meet the requirements of any cold climate.

For the hot weather in India the existing uniform answers. It should, however, be khaki; and I should prefer the Norfolk jacket to the present coat as being smarter in appearance. Trousers not cut for a gaiter should be worn, because cooler.

The shape of the helmet might with advantage be altered to afford more protection to the temples and back of the neck.

For field service in a very cold climate like Afghanistan, a Balachava cap and mittens for night work should be issued.

Major J. H. Campbell, 33rd Foot.

No; I think it unnecessary. If, on a regiment being ordered on service, two or three suits of white clothing per man are dyed, it will answer the purpose.

Major J. D. Dyson-Laurie, 34th Foot.

White clothing of good drill for cantonments, which should be dyed khaki for service.

The coats, in both cases made not too skimp or tight, as is so often the case, should admit of under-clothing and be of Norfolk jacket cut, without waist-band, with regimental buttons and stand-up collars and ordinary sleeves.

Belts to be of brown leather.

The ammunition to be carried on the waist-belt, which should have supporting shoulder straps. Loops for cartridges for immediate use, as are worn by the Guides, are excellent.

Good haversacks, gaiters, and water-bottles should replace the present indifferent ones, which are not suited to service.

Haversacks to be stouter and stronger in material, but of present pattern.

Gaiters to be of brown flax with studs, as supplied by Waukenphast, Haymarket. These are cooler and as waterproof as the leather.

Water-bottles should be round with convex sides; size as used in 4th Gorkhas; material termed "ebonated" as supplied by outfitters at home, but the size of which is too small.

The soda-water bottles covered with leather are too small and easily broken.

Metal corrodes and is undesirable.

Major G. K. Shaw, 68th Light Infantry.

I think the serge coat and trousers the best for field service, with a couple of khaki-colored coats of drill, made like Norfolk jackets, large enough to go over the serge jacket. One of these will keep the serge clean and give some additional warmth when a great-coat would be too hot, and in warm weather the khaki might be worn alone.

Major W. H. J. Clarke, 72nd Highlanders.

No. That is, if, as I suggested in answer No. 9, a loose easy coat, in the shape of a Norfolk jacket, of some drab or grey color, was issued in place of the present red serge coat. Under the above circumstances, the present uniform would be quite serviceable.

Major W. Galbraith, 85th Light Infantry.

Yes. It should consist of—

(1) a helmet cover;

(2) a puttoo coat, shaped like the red serge, with breast-pockets outside;

(3) a pair of puttoo breeches, loose at the knee and reaching four inches below the calf;

(4) a pair of Kashmir or other light woollen puttees.

A similar suit of yarn-dyed khaki drill should be issued for marching in hot weather.

The cost of the whole of the above would be provided from the difference between price of cloth and serge clothing, any surplus being given to the soldier in white clothing.

A second issue would only be required in the event of active service, when it would be given in lieu of the annual serge suit.

I particularly urge the substitution of breeches and puttees for trousers on account of the protection they afford from dust and dirt, the support given to the leg by puttees, and the ease with which they are dried after a wet march.

If the above service dress be adopted, the annual red serge coat might be somewhat improved in quality of material and richness of color, so as to provide a dress suitable for wear in review order.

Major G. S. White, 92nd Highlanders.

Yes. I think that something of a Norfolk jacket, under which the soldier could wear more or less under-clothing according to the requirements of climate, would be much more suited to camp wearing than the smarter and closer fitting dress suited to peace time, and which is not adaptable to different conditions of temperature. Khaki is generally recognized as the most serviceable color. It does not show work quickly, and is admirably adapted to prevent the movements of men wearing it from attracting attention in the field.

I would strongly recommend the grant of some small sum to a few selected commanding officers, for actual experiment, before any pattern

or material is finally fixed upon. The relation between work and suitable dress is a close one.

Yes, made of jute, not drill. This with the serge jacket (to be worn at night) would suffice for a short campaign if not too far north.

No, I think the uniform the troops have always with them should be suited for service. That might be of a cheap and durable material. If objected to as not showy, I think that the sight of troops perfectly equipped and ready for the field at a moment's notice is the true show which would be appreciated by those acquainted with military matters. If to gratify the eyes of ladies and others, a glittering dress is thought requisite, let that be a uniform to be left behind on entering into a war, but let us always have a uniform suitable for hard service in general use.

If the proposal means a khaki or similar color, I am of opinion that the distinctive scarlet worn by the British soldier is one of the valuable points in his uniform, because it enables friendly bodies to recognize one another quickly and easily. One of the most dangerous and unpleasant things to happen, and which I believe do occur far more often than is reported, is that of troops of the same army firing upon one another in mistake for the enemy. Short as the fighting was in Afghanistan, there were two cases which came to light of mistakes due to uniform not being sufficiently distinctive. Major Anderson, of the 28th Pioneers, is said to have mistaken the Afghans for his own men at the Peiwar Kotal, and to have thus lost his life. In the Khyber Column an instance of British troops firing on their own men was reported in the newspapers. In Europe khaki, as it would be a completely distinctive dress, might be valuable; but in this country, where our enemies are generally clothed in dirty cotton clothes, it is as well to avoid a dress that makes friends undistinguishable from foes.

11. Can you suggest any economy in such matters as lighting of barracks, punkah-pulling, barrack furniture, bedding, &c., or in any other item of supply, &c.?

Colonel J. A. Ruddell, 1-25th Regiment.

No, I am not prepared to do so.

Colonel H. S. Cochrane, r.o., Commanding 43rd Light Infantry.

I do not think lights after 10 p.m. at all necessary; there might be one or two small lights according to the size of the barrack-room. Men of a company ought to be trained to lamp-lighting, and by being told off for that might place their lamps at night so as to be able to light them at once if required.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

In bedding only, return to the old system of giving a warm-quilt (only give it biennially instead of annually): it is much preferred to the mattress now issued. This would save the expense of the constant stuffing with straw, charges for soap, &c.

Lieutenant-Colonel M. Macgregor, 1-18th Foot.

The expense of lighting, punkah-pulling, supplying barrack furniture, and bedding could not practically be reduced.

Lieutenant-Colonel A. Templeman, Commanding 1-21st Fusiliers.

I may allude to the system of punkah-pulling by machinery adopted in the Madras hospital.

Lieutenant-Colonel Daubeny, 7th Fusiliers.

I do not know if any cheaper way of lighting barracks can be found than at present. Gas, however, when available, would be an improvement as regards light.

(b) Punkah-pulling is, I think, carried on cheaper by cool labour than it could be in any other way. I think it depends much on the season whether punkahs are necessary, and some years they might be dispensed with.

(c) In towns where there is an organized system of water-supply, and the pipes pass within reach, water should be laid on in cook-houses and all places where required, and the services of bhisties be dispensed with.

Lieutenant-Colonel G. F. Walker, Commanding 1-12th Foot.

The present system of lighting barracks with kerosine oil appears to answer very well, and I do not think a cheaper oil is desirable.

In the matter of punkah-pulling some saving might be effected by calling on commanding officers to send in returns and estimates about three months before the hot weather sets in, in place of committees assembling (as is now the custom) while the punkahs are still hanging. Should the estimates be rendered about the time I propose, arrangements would by that time probably be made for sending some men to hill stations for the ensuing hot season, and fewer punkah coolies would therefore be required.

As regards barrack furniture, bedding, and other supplies, I do not think a more economical system than the present could be introduced.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

The barrack rooms are not sufficiently lighted at present to enable men to read or write at night, even were they inclined to do so, which I very much doubt, as the recreation and reading rooms are well lighted and answer all purposes. The present mode of lighting with kerosine oil is not only expensive to the State, but also to the soldier, from breakage of glass and burners; this independent of the cost of the oil. There is also an element of danger. Therefore, as a matter of economy in the lighting of barracks, I would recommend the common oil to be used in the ordinary soldiers' barracks, latrines, &c., and that the present number of lamps be continued.

Lieutenant-Colonel G. W. Puget,
Commanding 34th Regiment.

I cannot suggest any measure of economy in lighting barracks at this station, supply of punkah-pulling, and khus-khus tatties.

I am of opinion that there would be a saving to Government if the coolies for these services were provided by the commissariat department, as from the eagerness displayed by contractors in tendering therefor, I am convinced it must be a lucrative undertaking.

Machinery should eventually supersede hand labor for punkah-pulling.

Barrack furniture and bedding—I have nothing to suggest. Other items of supply—I think there would be a saving to Government if helmets were supplied direct by the clothing department, as if Government undertook the supply for the whole army, it would be able to enter into advantageous contracts.

By the present system of issuing the biennial allowance in advance, many men receive the allowance who proceed to England during the subsequent trooping season.

I am further of opinion that the helmets with ordinary care (give a water-proof covering) should last three years, but then the ordinary covers and *puggies* should be renewed free annually.

Lieutenant-Colonel J. S. Hand,
44th Regiment.

Can offer no suggestions. Punkah-pulling is quite unnecessary in some southern stations. I allude to Secunderabad and Theoyetnyo. Very few officers use punkahs at these stations, and they are an unnecessary expense to Government.

Regimental workshops might be more utilized for making furniture than they are at present, and, though they could not compete with the native, the material and workmanship would be far superior and more durable.

Lieutenant-Colonel T. W. Hughes,
64th Regiment.

Lighting is conducted at present as economically as is expedient. I should like to see the barrack-rooms much better lighted, as this has an undoubted effect in keeping men from bazzars and other mischief.

The present plan of punkah-pulling is, I fear, an expensive but unavoidable evil.

As to the present cost of barrack furniture, I have no data. The quantity is in no way too liberal. Probably bedding could be more satisfactorily supplied by regimental arrangement than as at present drawn in kind.

Lieutenant-Colonel C. B. Knowles, 67th Regiment.

No suggestion.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

No.

Major F. Stephen, 4th Battalion
Rifle Brigade.

The present system of lighting the barrack-rooms is such an immense boon to the soldier, adding so materially to his comfort, that I do not consider it would be desirable to make any reduction in the number of lamps, nor would it be advisable to replace kerosine with common oil, although the latter would effect a considerable saving; but a stronger and better protected light might be used with advantage, the present one being easily broken and costly. It would be better also if the reservoirs for the hanging lamps were made of metal (like the wall lamps) instead of glass as at present. With regard to punkah-pulling, I believe a saving might be effected by more careful supervision of labor, the number of men employed in many cases being in excess of the actual requirements.

Major H. P. Pearson, 12th Foot.

In the matter of punkah-pulling, yes; but I have already anticipated this in my reply to question 5. Barracks are now well lighted, but the scale of lamps is certainly not excessive. Furniture and bedding are good, but there is no extravagance in the supply.

A considerable sum of money might be saved annually by abolishing prizes for gardens and workshops. The idea under which these rewards were instituted was excellent, but in practice it has never been fulfilled. I would always encourage gardening and voluntary workshops, but not by giving prizes.

Major J. H. Campbell, 33rd
Foot.

No; unless punkah-pulling can be performed by machinery.

Major J. D. Dyren-Laurie, 34th
Foot.

Not in the plains.

Major G. K. Shaw, 68th Light Infantry.

I think one department should supply all the barrack furniture, &c. The supply is divided in Bengal between the public works department, the commissariat, and the ordnance department, and in Bombay there is a barrack department besides. This division causes trouble, and no doubt expense, and is regulated on no system. For instance, a soldier's kit-box is supplied by the public works department, and the padlock for it by the ordnance department; a Macnamara filter is supplied by the public works department and the cask to put it in by the commissariat; a common filterstand by public works department and the earthen vessels for it from the commissariat. Lamps are supplied by the commissariat, rods for hanging them by the public works department; tatties by the commissariat, punkahs by public works department, &c.

Major W. H. J. Clarke, 72nd Highlanders.

I cannot.

Major W. Galbraith, 85th Light Infantry.

It would be a very great addition to the soldier's comfort to have barracks better lighted than at present; economy in this respect cannot be effected until it is possible to employ gas or some other illuminating power more cheaply than oil.

Punkah-pullers cannot be dispensed with while troops summer in the plains; but I think it possible by mechanical aid to increase the power of each puller and so enable a reduced establishment to perform the work.

Major G. S. White, 92nd Highlanders.

I believe the allowance for lighting barracks with kerosine lamps to be very liberal, but I hesitate to recommend economy in this, as an ill-lighted and dismal barrack-room lends additional attraction to the brightness and conviviality of the canteen.

I think it would be economy to fix the punkahs more universally in trains. It costs little to do so, and would greatly decrease the establishment of punkah coolies. I have seen in staff sergeants' quarters five or six punkahs taking 15 or 18 coolies, which, if fixed in trains, might have been worked with a much smaller establishment.

Captain H. M. L. Hutcheon, 1-14th (Prince of Wales' Own) Regiment.

Except where there is gas, I don't think barrack-rooms are at present too brilliantly lighted. It would be very difficult to economize here. Oil-lamps are trimmed and lighted by the soldiers themselves.

12. Could not petty barrack repairs and maintenance of barrack furniture, &c., be provided for regimentally, by fixing a maximum allowance within which the officer commanding might sanction expenditure?

Colonel J. A. Ruddell, 1-25th Regiment.

Yes, I think so; but on the understanding that suitable workshops were provided, and that the regiments remained in a station for 18 months or so.

Colonel H. S. Cochrane, V.C., Commanding 43rd Light Infantry.

I do not think this could ever be satisfactorily done. Commanding officers would never be satisfied with the state of the quarters they had to take over.

Lieutenant-Colonel T. Rowland, Commanding 1-5th Fusiliers.

Yes, I think it might be done with advantage. I have in some instances done this on a small scale, such as painting and whitewashing.

Lieutenant-Colonel W. D. Tompson, Commanding 1-17th Foot.

Generally speaking, I think they could, that is, so long as a regiment was stationary in quarters.

Lieutenant-Colonel M. Macgregor, 1-18th Foot.

I think not. Regimental labor is so much more expensive than native, that the allowance would always be exceeded, and it is so uncertain in the hot weather that there would be great delay in the performance of repairs.

The plan was tried in my battalion in 1870, and signally failed.

Lieutenant-Colonel A. Templeman, 1-21st Fusiliers.

I think so, and with advantage. The artificers, too, in a regiment could do much of the carpenter's and smith's work, the wood and iron being provided by the engineer or public works department, as the procuring of these of good quality is in some places a great difficulty.

Lieutenant-Colonel Daubeny, 7th Fusiliers.

Wherever an entire regiment was quartered, and there was sufficient accommodation to establish workshops, there would be no difficulty; but there might be in small stations occupied by only one or two companies, as there might not be sufficient skilled labor in the battalion to keep open two or more workshops.

The repairs, I think, could be done cheaper by the soldiers than by the Natives, as the soldier would not be dependent on the work for his living.

Lieutenant-Colonel G. F. Walker,
Commanding 1-12th Foot.

I believe it would be best to give the work (under certain restrictions) to the lowest bidder, regiments being encouraged to compete, as I believe it would be difficult to fix an allowance for the work on a scale sufficiently elastic to meet the cost of material at all stations.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

I think this suggestion might easily be tried in regiments that have a sufficient number of artificers and skilled workmen, and I believe in many cases the work, if properly supervised, would be more satisfactorily and economically carried out in the long run.

Lieutenant-Colonel R. Culbert,
Commanding 2-15th Foot.

There is no reason why all the barrack furniture and fixtures should not be repaired under this proposed arrangement; there is little work done now in regimental carpenter's shops, and I believe it would afford means of healthy employment for the artificers. Agreeing with this proposal, I, however, foresee that certain difficulties may arise, and have to be provided for in connection with the taking over and handing over the barrack furniture so repaired.

Lieutenant-Colonel G. W. Puget,
Commanding 34th Regiment.

Yes, with advantage.

Lieutenant-Colonel J. S. Hand,
44th Regiment.

I consider the present system the best and more economical than if a fixed allowance was placed at the disposal of commanding officers, for regimental workshops cannot compete with Native labor.

Lieutenant-Colonel T. W. Hughes,
64th Regiment.

I hardly think it would answer.

I think this might be made to work advantageously; but more on the ground of an outlet for the employment of soldiers, and of expedition and general convenience than of economy. I do not consider that work executed in regimental workshops is cheap, nor do I think that regimental authorities would go to the Native labor market with any advantage over the public works department.

Lieutenant-Colonel C. B. Knowles,
67th Regiment.

All repairs to barrack furniture could be done regimentally, and I think the proposed arrangement would prove very satisfactory; but one scale would not answer at all stations. Barrack damages at Madras, owing to the sea air, are very heavy.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

I think it might in the case of barrack furniture, if issued first of all in thorough good repair.

Major F. Stephen, 4th Battalion
Rifle Brigade.

Yes, this might be done, and with advantage.

Major F. S. Terry, 1-25th Foot.

I am of opinion that, if a percentage of the savings out of the maximum allowance for petty repairs were allowed to the regiment to assist the payment of barrack damages charged against the men, the plan would succeed. A completion certificate by the executive engineer as a guarantee for efficient workmanship would be necessary. But, speaking generally in reply to the question as it stands, I should say the proposal would not answer, as either the repairs would be ill-done, or the maximum allowance would always be expended.

Major H. P. Pearson, 12th Foot.

Undoubtedly; and I think such an innovation would have good results. I think the annual white-washing, painting, and lettering of doors, punkah-hanging, and work of this nature might be undertaken by regiments at public works department rates. It would afford healthy occupation to the men, not involving exposure.

Major J. H. Campbell, 33rd Foot.

I think not. Few commanding officers know the cost of material and the wages of the labor market. If it is proposed that the repairs should be carried out as far as possible in the regimental shops and by soldiers, I believe it would be found more expensive than by employing Natives, as, although the soldier would repair better and in a stronger manner, the Natives would combine to force up the price of material so much as to entirely outbalance the cheapness and better workmanship of the soldier.

Major J. D. Dyson-Laurie, 31th
Foot.

I think that it could; only in India the soldier is indifferent to workshop employment.

Major G. K. Shaw, 68th Light
Infantry.

If by "regimentally" is meant by the labor of the men themselves, I apprehend difficulty from the small number of tradesmen now in the ranks. Skilled workmen will not enlist now, and my regiment, which is recruited in mining districts, has scarcely a carpenter or joiner in it. If, on the other hand, it is meant that the commanding officer should execute the repairs by Native labor, I think there would be even more waste than there now is under the public works department, as the commanding officer, not having the same knowledge of the market rates of labor, &c., would be more imposed on.

Major W. H. J. Clarke, 72nd Highlanders.

They could, and I think that all petty repairs to barracks and furniture could be well carried out regimentally—better, cheaper, and more quickly in every way than under the present system, and also more to the satisfaction of the regimental authorities. In fact, at most stations, the 72nd Highlanders have done a good deal of work for the barrack department.

Major W. Galbraith, 85th Light Infantry.

No. Few commanding officers would be able to judge of the necessity and amount of repairs, and the rates at which payment should be made. Even if fully competent to undertake such work, a commanding officer has already ample employment in looking after the health, equipment, training, and discipline of his men.

Major G. S. White, 92nd Highlanders.

If the barrack furniture were handed over in good order, it could be cheaply kept up regimentally. Under the present system some slight break takes place which is not noted till next month perhaps, and not mended until double the damage has supervened for want of the stitch in time.

Captain H. M'L. Hutchison, 1-14th (Prince of Wales's Own) Regiment.

No, I don't think it would work well. Commanding officers might possibly differ with their predecessors regarding furniture, work, &c., taken over.

Captain R. H. Fawcett, 33rd Foot.

I think most of the petty barrack repairs, &c., could be done in the regimental workshops, and are in fact frequently so undertaken. If the commanding officer had a sum of money with which the men could be paid for their work on its completion, one source of dissatisfaction and consequent slack work by soldiers would be removed. There is nothing the British soldier seems to feel more than that money is due to him, and that he is, as he puts it, kept out of it. This is specially the case when working at roads, where the payment is often kept so long in arrears that the men feel half-hearted about the work; and similarly regimental workshops would be more popular with soldiers if the payment could be more immediate. If a regiment were held responsible for keeping up the barracks in good repair by the men themselves, it would aid to make it more self-dependent.

13. What do you consider to be results of experience in the working of the medical and hospital system, as practised generally in India and during the recent operations in Afghanistan?

Colonel J. A. Ruddell, 1-25th Regiment.

That the new system has worked satisfactorily; but I of am opinion that one medical officer should be on the strength and always remain with each battalion.

Colonel H. R. L. Newdigate, Commanding 4th Battalion Rifle Brigade.

Unsatisfactory: the system under which medical officers are being constantly changed is not conducive to the good of the regiment. The orders to be obeyed by medical officers, whether departmental or regimental, do not seem to be accurately defined.

During the recent operations doolies and kahars were frequently sent to, or removed from, the regimental hospital without my knowledge; and I think that all orders with respect to Native establishments, whether hospital or not, should be conveyed through the commanding officer.

Colonel H. S. Cochrane, V.C., Commanding 43rd Light Infantry.

I have not had any experience.

Lieutenant-Colonel T. Rowland, Commanding 1-6th Fusiliers.

I think, taking it in the abstract, the system was successful; but the details during the war were very faulty. Once a man was admitted into the field or base hospital, all trace was lost of him, very seldom any return being sent of his transfer from one hospital to another; discharge, &c., and kits, arms, &c., were constantly lost.

Lieutenant-Colonel W. D. Tomp-son, 1-17th Regiment.

Except during the recent operations in Afghanistan, I have had experience of the regimental system only. We have in the 1-17th hitherto been particularly fortunate in our medical officers and senior medical subordinates, and the system in quarters has worked comfortably and well.

The recently adopted hospital arrangement for field service was not carried out during the recent operations without considerable friction.

Energetic advocates of the system have tried hard to prove it a complete success at the expense of the fighting portion of the army. Regiments were indented upon to furnish hospital clerks, hospital sergeants, hospital orderlies, in large numbers. At Lundi Kotal the 1-17th Regiment had at one time 23 trained soldiers doing orderly duty in the hospital which might have been equally well

done by men not equally fit to carry rifles. The regimental hospitals were denuded of medicines, instruments, and of the medical subordinates to an inconvenient extent. All the hospital establishments were under-handed in the subordinate grades, and although in theory the field hospital was intended to be divisible to any extent, in practice it was not so.

Lieutenant-Colonel M. Macgregor,
1-18th Foot.

The system of working hospitals in India is generally good. I suggest the general hospital system being adopted instead of the regimental, as a means of greatly reducing expenditure. For instance, at Perozepore, where there is a British infantry regiment, and two batteries of artillery, there might be one instead of two distinct hospital establishments. There are 62 Native hospital servants attached to each British regiment, when 40 would suffice. This is in addition to 12 purveyor servants who could easily do the work for all the troops.

I cannot give an opinion about the working of the system in Afghanistan.

Surgeons should be kept attached to their own regiments, even if the general hospital system is adopted.

Lieutenant-Colonel A. Temple-
man, 1-21st Fusiliers.

As regards the medical system, the constant changing of medical officers from their charge appears a very undesirable arrangement as compared with those officers being permanently gazetted to corps.

Lieutenant-Colonel Daubeny, 7th
Fusiliers.

The medical and hospital system, as practised in India, works well, and the soldier is comfortable; but I consider there would be a great saving if separate hospitals were abolished, and the sick of every regiment, European and Native, treated in one central hospital, as then only one establishment would be needed. The soldier would also benefit in one way, as the younger medical officers would be kept up to the mark, by supervision and contact with others more learned than himself. I would attach a medical officer to each regiment, who should move with it from station to station, and at other times he should work under supervision of the station staff.

Lieutenant-Colonel G. F. Walker,
Commanding 1-12th Foot.

I cannot say that I consider the new system of a general or field hospital is any improvement on the regimental system; nor do I think it has worked satisfactorily in the Khyber pass, where my regiment has been stationed for the last four months.

Lieutenant-Colonel D. Warren,
Commanding 2-14th Regiment.

My experience of the working of the medical system in India is that it is fairly good in comparison with that which obtains at home.

The surgeon-major is sufficiently permanent to become acquainted with those who have to fall under his care; harmonious working between the regimental and medical authorities has time to develop itself. As regards the junior medical officers, a more permanent connection between them and the corps with which they are doing duty appears desirable.

The hospital system appears to be excellent.

Applying the question to the recent operations in Afghanistan, I am unable to reply.

Lieutenant-Colonel G. W. Paget,
Commanding 34th Regiment.

I am of opinion that the hospital system works well, everything being provided for the comfort and recovery of the patients.

The hospital equipment for small parties on the march is unnecessarily large and costly. The stores of clothing are seldom unpacked; the servants are seldom wanted; and as the railways offer facilities for sending sick men to the nearest hospital, the cost of carriage and the wear and tear of transport of unnecessary articles might be saved.

I am of opinion that the present medical system contrasts very unfavorably with the old system, the present system being injurious to regimental interests, by the liability of constant changes of medical officers.

Lieutenant-Colonel J. S. Haud,
43th Regiment.

The regimental hospital acts well in time of peace; but on service in the field the general hospital system, with one medical officer attached to each regiment, is both for economy as well as efficiency the most desirable.

It would be advantageous and, I think, economical to do away with the double system of apothecaries and hospital sergeants, as well as orderlies, by employing the army hospital corps in India.

Lieutenant-Colonel T. W. Hughes,
6th Regiment.

These experiences seem to me to point to the re-establishment of regimental hospitals and medical officers; while at certain stations large general hospitals should be established and kept up in *personnel* and *material*, so that they might furnish the divisional hospitals in the field. Into these general hospitals might be drawn from time to time the men to be invalided from regiments to England, thus keeping regiments as free as possible from impedimenta.

I am strongly of opinion that the medical officers who have so much to do with the comfort and welfare of a regiment, ought to belong to it.

Lieutenant-Colonel C. B. Knowles,
67th Regiment.

There has scarcely been a system in operation on which to give an opinion. The regimental one has not been abolished, nor has the base and station hospital system been properly established.

There are many reasons, I believe, why the old regimental system should disappear; but I am of opinion that under the new one medical officers, not knowing their patients, would not take the same interest in them as the regimental surgeons did.

I should like to see one surgeon gazetted to a regiment and remain with it for five years. He would soon become acquainted with the men; and they would have more confidence in him than in an entire stranger. Of course, he would pass on all serious cases to the base or station hospital.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

Major F. Stephen, 4th Battalion Rifle Brigade.

Favorable.

I think, on the whole, it worked well; but owing to the nature of the country, had the troops marched much, it might have been difficult for a base hospital to have accompanied them, so that perhaps a general hospital, supplemented by a regimental one, might be an improvement. There should, however, be no army hospital corps, as the present system of suddenly drawing non-commissioned officers and privates (who are probably new to the work) from regiments, where their services are urgently required, only leads to confusion and does not ensure the men best fitted for the position of hospital sergeants and orderlies getting these appointments.

Major F. S. Terry, 1-25th Foot.

I am of opinion that the regimental system of medical and hospital organization, as practised in India generally, has a cramping effect on the development of the efficiency of the department, injurious to regimental interests.

I am of opinion that the duties of a medical officer are those of general service and not particular to any corps. He should, therefore, be classed as an officer of the general staff, and be interchangeable in stations under the orders of the senior medical officer approved by the commanding officer of the station.

In the recent operations in Afghanistan the garrison system was adopted in the Khyber column, and the great advantages of it over the regimental system were, I believe, fully recognized.

There is only one point about it to which I should wish to refer, and that is that the medical officer appointed to the regimental charge would probably be the junior of his rank; this being naturally and even necessarily the case, it seems to me that his inexperience disqualifies him for independence in such a responsible position. He would also, generally speaking, be deficient in influence with the regimental authorities.

Under these circumstances, I conceive that the senior medical officer of stations (not being the deputy surgeon-general), should be the responsible officer for all regimental questions of hygiene, the junior officer in regimental medical charge being merely his irresponsible deputy in these matters.

The visits of the senior medical officers of stations to regiments should be of such frequency as to enable him to keep under observation all details of hygiene connected with them.

Commanding officers should have both official and unofficial access to their sick in garrison hospitals: the former by pre-arrangement made through the station staff officer; and the latter at the ordinary visiting hour fixed by the medical officer for all private visitors.

In the Khyber column, I observed that men detained sick for the day were allowed to return to their company tents against the hospital regulations, on the ground that no tent was allowed to the hospital for these men. The practical effect was a large increase of non-available men for duty and a falling-off in the efficiency of the regiments concerned owing to the impossibility of sufficient observation of the cases. A rule requiring commanding officers to supply tents to the regimental hospital according to the numbers detained for observation is required.

Major H. P. Pearson, 12th Foot.

I consider that the abolition of the regimental system is a very grave mistake. In olden times, when doctors belonged to a regiment, they knew the habits, constitutions, and previous history of the officers and men under their charge—an obvious advantage in treating disease. They attended a man through his illness, and had the whole responsibility of his case. Now a patient may be treated by half a dozen doctors in as many days, none of them having ever seen him before, possibly each holding different views as to the treatment of the case and adopting different cures. In such circumstances, what sympathy can there be between the doctor and his patient, and how can the latter feel that confidence which so often largely contributes to recovery?

The regimental system kept the sick of regiments and batteries apart from each other, and therefore in many small bodies. The general hospital system collects all these small and isolated bodies into one central spot. The experience of years teaches us that, in a great majority of epidemics of cholera, the hospitals have furnished the earlier cases presumably because the sick are more prone to that terrible scourge than the healthy. That it is believed to be communicable is evident from the measures invariably adopted to shake it off—dispersion and isolation; and I fancy few will be found to contest this theory.

Yet, in the face of this fact and this almost universal belief, we deliberately adopt a system which exposes all the sick of a force or garrison to the same danger, and deprives them of that chance of escape which, in smaller bodies, they would have.

On service, when regiments are actually moving about, a field hospital is a necessity, because it relieves corps and batteries of the incumbrance of their sick. But as soon as standing camps are formed, the field hospital should be broken up and the regimental system again resorted to.

There appears to be no reason why a proportion of medical officers and subordinates with tents, medicines, doolies, &c., &c., should not be detached by regiments and batteries to form a field hospital when such a measure is necessary.

The field hospital, or general hospital, system may be more economical than the regimental, but it does not work well in practice. At least such is the inference to be deduced from what has happened here at Lundi Kotal, where, after long trial, the field hospital was broken up and the system of regimental hospitals reverted to.

Major J. D. Dyson-Laurie, 34th Foot.

Along the Khyber route the soldiers were not fond of leaving their regimental hospitals for treatment in field and base general hospitals; and the necessary transport of wounded officers and men for treatment to distances immediately after undergoing excitement, fatigue, and wounds, I feel sure, cannot be otherwise than injurious.

Major W. H. J. Clarke, 72nd Highlanders.

In my opinion the old regimental system is the one that works best, both in quarters and on service. By this system the medical officers of a regiment come to know the men, understand their constitutions and habits, which in illness or epidemic must be of great advantage and therefore they are able to give more particular attention to any man who from constitution, debility, or other causes may require extra care.

Whereas in a general hospital none of the medical officers know any thing about the patients previous to their admission. Another thing is, the medical officers are frequently changed, and the same officer does not attend the patient throughout his illness.

In the present system there never seems to be available medical officers to send with detachments. I have at present two detachments away from head-quarters, consisting of two companies each, in charge of medical subordinates.

One has not been able to judge of the working of the field hospital on service in Afghanistan, as, since it was formed, no active operations have taken place, but in my opinion all the doolies, &c., being under care of the medical officer in charge of the field hospital, and which are all to be collected in some one spot, would never work. Regiments that have been fighting might and most likely would be long distances from the places selected, and therefore in the first place it would be not only most difficult to find the spot, but in the meantime the men wounded would have to remain in some instances for long periods on the battlefield before they could be removed.

I have also heard, and in some instances know, that there is great difficulty in procuring medical comforts for the men by the present arrangement.

Now in the mutiny, when the regimental system was working, I never heard of any complaints.

Major W. Galbraith, 65th Light Infantry.

The regimental hospital system, as carried out in India, is popular with the soldiers, who like to be treated near their comrades and friends. Its practical advantages were more marked while regimental medical appointments were permanent than now, when surgeons are liable to be moved at any moment. During about three months at Lucknow six medical officers successively were in charge of my regiment, the result being that from their want of experience of the habits, characters, and constitutions of individuals, malingering became possible, and serious illness was sometimes disregarded.

There seems little doubt that a system of general (garrison) hospitals affords great facilities for checking expenditure, and can be worked with greater economy than a number of separate regimental establishments; but in most cantonments, the centralization of hospitals would

involve the erection of new buildings at a cost far exceeding any possible gain from subsequent retrenchment.

Whatever the system adopted in quarters, active service imperatively demands the concentration of medical resources in divisional, base, and field hospitals.

During the first months of the Kuram campaign, though base hospitals were formed, each corps had its own field hospital with an unwieldy establishment of followers, camp equipage, and medical comforts, on a scale in accordance with the requirements of a possible maximum of casualties by wounds and sickness.

On 29th November, the several hospitals were brought together at Peiwar, and on 4th December, the wounded having been sent back to Kuram, the regimental system was resumed and remained in force until the end of March.

It then seemed probable that our further advance for at least four marches would be opposed, and that we should have to save ourselves from our advanced base at Alikhel, and it was at once apparent that if every regiment must be hampered with the care of its own sick and wounded, the force would be much less efficient than if the hospitals could be massed in charge of a portion of the column, leaving the remainder free for action.

A divisional hospital was therefore formed for British troops, and was organized in four sections, each complete in all respects, and ready, if required, to accompany a detached brigade at a moment's notice.

One medical officer was detailed to remain with each corps, and was allotted a small quantity of appliances and medicines, a tent for the temporary reception of urgent cases, and three doolies; the remaining establishments and supplies being taken up for the divisional hospital and ambulance corps.

One immediate result was a reduction of 40 per cent. in the carriage required for hospital camp equipage and equipment, and in purveyor's stores and establishment, provision being made for the possible average of casualties throughout the column, instead of, as previously, for the possible maximum of casualties in each of its units.

Preparations were also made to form a Native divisional hospital, but the project was abandoned in consequence of the difficulty of nursing and cooking for men of many different castes without the aid of their comrades. This difficulty should be carefully considered before our next campaign.

14. State your views as to the efficiency of the arrangements in cantonments and on field service for the transport of the sick, both in *personnel* and *matériel*, and give any practical suggestions which may occur to you as likely, if acted on, to improve efficiency or reduce expenditure.

Colonel J. A. Raddell, 1-25th Regiment.

The arrangements for the transport of the sick in cantonments and in the field, as far as I have had experience, have worked fairly. I am not prepared to suggest any improvements. The medical officers of the army will no doubt be able to do so.

Lieutenant-Colonel T. Rowland, Commanding 1-6th Fusiliers.

I don't think in cantonments anything more efficient or less costly than the doolie can be used. In war I think mule carriage (for mountainous countries) and ambulance for the plains, when there are good roads, might be combined with the doolie, with good effect both as to efficiency and economy.

Lieutenant-Colonel M. Macgregor, 1-18th Foot.

I think the arrangements for the transport of sick are good. I am informed by the medical officer in charge of my battalion that the old pattern doolie is far better than any of the new ones, being more comfortable for the sick, lighter and forming a bed at night. Burke's and other new pattern doolies are so complicated and troublesome to fix together that the kahars are puzzled, and the doolies get out of order.

Lieutenant-Colonel Daubeny, 7th Fusiliers.

In cantonments and in the field the transport of sick is in great measure effected by doolies and by doolie bearers, a comfortable but slow and expensive means of conveyance.

In cantonments and on the ordinary line of march I would suggest a light ambulance cart for horse draught to be used whenever practicable.

Lieutenant-Colonel G. F. Walker, Commanding 1-12th Foot.

I have no suggestions to make on this head; it seems to me that the present mode of transport for the sick is almost the only feasible one in India. The light dandies now in use in the Khyber Pass seem well adapted for the purpose.

Lieutenant-Colonel G. W. Puget,
Commanding 34th Regiment.

It appears to me that the transport of sick and wounded in doolies, carried by six bearers (four to carry, two in relief) is unnecessarily heavy and expensive.

The doolie is so close to the ground that the occupant suffers greatly from dust. The heavy curtains exclude air.

I think a net hammock cot suspended from a bamboo pole, connected with the pole, an oblong frame over the hammock cot with canvas water-proof curtains, as a protection from sun and rain, would be better and lighter; it could be carried by three bearers (instead of six) quicker, and with greater comfort to the occupant.

Light spring carts, with high wheels, built on European principles, with either mule or bullock draft, would, I think, be an improved method of transport.

Lieutenant-Colonel J. S. Hand,
44th Regiment.

Nothing could be worse than the two-wheeled bullock sick cart in use in the Madras presidency. It is only fit to pick up men on the line of march who fall out from sore feet or other slight causes. Men suffering from serious ailments have been known to walk in preference to sitting or lying in the carts. Any carriage conveyance for sick should be four-wheeled. There is no conveyance like the doolie, the bearers for which should be enlisted and armed, and then attached to the hospital establishments under the control of the army hospital corps.

I would suggest the organization of a "bearer corps" in connection with the transport service, to be utilized not only for the transport of sick, but also hospital stores and such other supplies as may be deemed necessary.

Light doolies, munchedies, or dandies should be specially constructed. Mules are neither economical nor suitable for transport of sick. The forage for a mule (not including grass) would be about equal to the rations of six men. I make now mention of cooking utensils, &c., since, with a properly organized corps, the weight of each individual share would be unworthy of notice, and I have experienced that in coolie corps the men always made their own arrangements for carrying their cooking pots in addition to their authorized loads.

Lieutenant-Colonel C. B. Knowles,
67th Regiment.

The arrangements in cantonments I consider satisfactory.

For field service, I would recommend that a corps of trained doolie-bearers be kept on a permanent establishment so as to be ready when required.

I am of opinion that a good serviceable light doolie is still a desideratum.

Lieutenant-Colonel G. H. Parker,
92nd Highlanders.

In cantonments good, but in the field most of the doolies are too heavy. Dr. Hamilton's is, I think, the best. The kahars are in many cases almost useless.

Major F. Stephen, 4th Battalion
Rifle Brigade.

A lighter doolie than the one now in use would be an improvement in time of war—a proportion of doolie-bearers to be done away with and mules substituted for the carriage of men only slightly wounded or slight cases of sickness. Three mules only require one attendant, while a doolie requires six men and one mule.

Major F. S. Terry, 1-25th Foot.

I would wish to suggest that all kahars employed for the transport of sick should be not below a given standard of physique and strength, and that, in common with all other followers, they should be formed into organized companies and sections.

Each set of kahars should be taught to obey No. 1 of his set. In war the sets would be broken up into cadres, filled up with hired kahars to the extent deemed necessary, or fresh complete sets would be intermingled with the trained ones.

In peace the men should be regularly engaged, and their pay should be fixed at a rate somewhat higher than at present; the difference, however, being handed over in a lump sum on discharge in lieu of pension on completion of a stated period, or on completion of several distinct periods of service.

No stoppages of pay as a punishment should be allowed. Their work and the hours of work should be carefully regulated to prevent misapplication or excess of work.

That they should be drilled and daily practised in carrying doolies, weighted, in order to preserve their capabilities unimpaired.

On the march they should never be allowed to carry any portion of their clothing or cooking utensils in the doolies.

In the Khyber column I frequently observed a misuse of the doolies to the detriment of the service, clothing and refreshments being carried in them for officers and men instead of their being kept in unquestionable readiness for sick men.

Additional Remarks.

I beg to suggest that there can hardly be a wider field for economy than in the thorough systematizing of the hygiene and disciplinary medical treatment of British soldiers.

To clothe, feed, house, and train them so as to develop the best condition of physique as well as to counteract depressing influences in climate, and ill-managed exercise which tend to the deterioration of their physique. It is in these matters that there is still room for improved efficiency, and hence economy. First, I would bring to notice that the principle of selecting men for change of climate to the hills, and other benefits of the same nature, induces amongst them an unseen but baneful competition for such selection.

A private soldier of about thirteen years' service once said to me that it was generally considered amongst the men to be a good thing for their future prospects in the second term of service to have men invalided to the hills and to have the record of it in their medical history sheets. I believe this to be a widespread feeling which requires checking.

I would suggest that the drafts of the year from England should be sent to the hills, immediately on arrival, to season for upwards of a year.

There they should be formed into *instruction battalions* under selected regimental officers and non-commissioned officers.

That men invalided from their regiments should be sent to some other station on the plains (irrespective of presidency) considered most suitable to their disease, and where at the same time their services could be better utilized than on the hills.

Should a greater change be absolutely necessary, they might be sent to the Cape or Mediterranean stations; but, until they become time-expired, very few should be allowed to go to the hills or home to England.

If the drafts sent out from home were first sent to the hills to season, I am of opinion that the general average of health in British regiments would be much improved.

If this plan were adopted, I would then further recommend that regiments should be kept in India for twenty-five years, their linked battalions remaining at home. Changes amongst the officers and non-commissioned officers would be by roster in both battalions taken together subject to the modifications of voluntary exchanges, and amongst the men by drafts of recruits coming in and time-expired men going out.

A colonel commanding a British regiment in India some years ago told me that at Agra he had received a draft of some two hundred weedy-looking boys. They were pronounced in the regiment to be utterly unfit for service in India, and he himself did not expect to be able to make anything of them.

Shortly afterwards the regiment was ordered to Ranikhet, and it was there he pointed out to me several specimens of the same draft, the whole of which he told me like those I saw had under the wonderfully favoring influence of the mountain air of the Himalayas turned out as fine a set of young soldiers as could well be desired.

Reverting to the consideration of the first paragraph of these suggestions, I have, in the replies to the Commission's questions, made a few remarks in regard to clothing. In regard to feeding, I would invite attention to the curried peppery masses of dried-up lean meat which forms the daily food of our soldiers in India; to the issues of beer at 10 and 12 o'clock in the day consumed on empty stomachs; to the dram of spirits taken neat in the evening. Is there no room for economy in all this?

In regard to housing witness the barracks, draughty and hot in the hot weather, and ill-ventilated for cold and wet weather. Much attention has been paid to the subject, and great expense has been incurred on account of barracks. I am aware it is only unfortunate that the subject of ventilation should have been so little understood until recently. We see long narrow buildings with doors and windows exactly opposite one another. The wind blows through in one direction, in the monsoons generally too strong, cold, or damp to be agreeable; but there is no choice between leaving open or shutting the doors and windows between draughtiness and no ventilation.

The walls of thin heat-conducting material, roofs of the same. Punkahs only nominally worked. Floors and foundations which draw the poisonous gases of the ground into the buildings.

All the above are defects existing in stations in India where I have served.

For ill-managed exercise: in one regiment of British infantry we hear of daily morning drill for every man throughout the year; in another, not only of none, but of parades even a minimum. Are the results of such striking differences investigated and allowed a due

weight in the general regulations of the service, or are regiments left practically to their own desires except for one annual inspection?

I have frequently heard of medical officers interfering to limit the amount of work performed by the men; but has the department practically taken up the question of ensuring that a necessary amount of daily exercise or labor is performed? I think not; and yet it must be allowed by all that the latter is a *sine qua non* to health and strength everywhere.

Major H. P. Pearson, 12th Foot.

The service is efficiently performed in cantonments, but I am of opinion that a lighter and more serviceable doolie than the old pattern one might be introduced with advantage both there and in the field.

Much more care in the selection of kahars for field service is needed than was exercised before the late campaign. Many men were sent up as kahars who confessedly had never carried a doolie in their lives; some of these were brought up from the Madras presidency. A considerable proportion of the kahars who accompanied the Peshawar Valley Force were wretched creatures at the outset, and quite unfit from one cause or another to carry a doolie. Some were aged and infirm, some suffering from disease. Many died in the field, and before the campaign had begun a fortnight, the base hospital at Peshawar was crammed with them.

Railroads and roads have, as a necessary consequence, diminished the breed of kahars, and it would be quite impossible to find men of the old stamp in sufficient numbers for an extensive campaign. But at all events, able-bodied men might be selected for the service of the sick, especially when such high wages were offered as was the case in the late war.

Major J. D. Dyson-Laurie, 34th Foot.

The doolie is the most comfortable mode of conveyance for an injured or sick man with which I am acquainted.

Major W. H. J. Clarke, 72nd Highlanders.

I think the arrangement in cantonments is all right.

But in the field they are very far from it.

The only improvement I can suggest is a lighter doolie, but still strong enough to stand the wear and tear; the present one is very heavy, almost useless, in hill warfare, and lighter ones lately invented will not stand the work.

Major W. Galbraith, 85th Light Infantry.

Nothing can be more unmilitary in appearance than the straggling line of doolies manned by struggling kahars, which ordinarily represents the hospital of a British regiment on the march in India.

Since the opening of cart-roads to the hill stations the doolie has no *raison d'être*, its discomfort is so great, that the patient, if able to drag himself along, will get out and walk to escape from its abominable motion and close atmosphere, thick with dust raised by the bearers' feet.

For the transport of sick in the plains, I suggest the introduction of a four-wheeled, covered ambulance wagon 12 feet long and 6 feet wide (inside measurement), with four moveable seats, two on each side, each 6 feet long, 18 inches wide and 18 inches high.

The seats should have double planks, so that on being taken up and laid across from side to side, they would form a bed of the same size as the floor of the wagon and 10 inches above it.

Each wagon would contain ten patients sitting, or four lying down, the latter having their mattresses and bedding, the former their blankets folded to sit upon.

Assuming that two-fifths of the patients must be carried in a recumbent position, and that three-fifths can travel sitting up, we should require eight wagons for fifty patients, *viz.*, five wagons each carrying four sick, and three wagons each carrying ten sick.

The comparative cost of carrying 50 patients for one month in doolies and in wagons is as follows:—

					Rs. Per mensem.
50 doolies—					
require 300 kahars, at Rs. 7	...	...	...	...	2,100
6 mates, at Rs. 9	...	...	...	...	54
				Total cost	2,154
6 wagons—					
require 32 hired bullocks, at Rs. 15 each	...	...	...	...	480
Monthly balance in favor of wagons for every 50 patients	...	...	...	...	1,674

The difference between the original cost of doolies and wagons would soon be covered by this economy, and the wagons would be extremely useful in case of any sudden *crise* or disturbance requiring the immediate despatch of a small force to an outlying district, when each would take 12 or 14 men with arms and accoutrements, and would disembark them even in the hottest weather comparatively fresh and ready for immediate action.

In case of operations across the frontier, the wagons would be available to aid in bringing supplies as far as cart traffic might be practicable.

When the Kuran force crossed the frontier, British corps were supplied with eight doolies and sick transport on active service where wagons cannot travel. two dandies, and Native troops with two doolies and eight dandies for every hundred fighting men.

Doolies having six and dandies four Kahars each, with a few spare men, and one mate to every fifty, one class of followers alone numbered more than half as many as the fighting men of the

column, thus adding enormously to the demands upon the commissariat and transport departments for food supplies.

The rate paid for carriage of food from Rawal Pindi to Kuram was Rs. 9-6-0 per maund, so that including free rations, pay, warm-clothing, and transport from distant stations in India, each kahar has cost the State about Rs. 18 per mensem since the commencement of the campaign.

Meanwhile, a large number of those first entertained were so useless that they had to be sent back to their homes.

To supplement the sick transport camel *kajawahs* were ordered in October, and mules were on several occasions employed for patients who were not too ill to ride.

As far as I can recollect, the *kajawahs* did not arrive till February; they were then tried with Native troops, and I can state from personal enquiries that the patients invariably preferred them to dandies.

With regard to the above arrangements, I am of opinion that when a force operates at such a distance from its base that it may be obliged to carry forward its sick and wounded, as would have been the case had the Kuram force crossed the Shutargardan, their sick transport should be provided for at least 14 per cent. of its total strength.

If such transport is furnished exclusively by kahars, they will number nearly as many as the fighting men, and, being generally worse clothed and sheltered, they will probably have as many sick. If these are carried, we shall be in the anomalous position of having to feed and defend a large and costly establishment which will be incapable of rendering us any service in return.

I would therefore suggest that, in all active operations beyond the limit of cart-roads, sick transport be provided as follows for every hundred fighting men, *viz.*—

4 Doolies of a lighter pattern than the standard pattern.

3 Selected camels, each carrying two *kajawahs*.

4 Selected mules for patients well enough to ride, and capable on an emergency of carrying two wounded men in *kajawahs* a short distance, so as to be utilized in action.

The only equipment required would be one strong sureingale of ordinary girthing material for each mule, with a piece of stout *nacar* sewn by its centre to the sureingale above the mule's wither. The patient's blanket folded and laid above the straw pads of the mule would form a comfortable saddle, kept in its place by the sureingale; and the loose ends of the *nacar*, tied above the front of the saddle, would form loop stirrups of any desired length.

The suggested establishment would provide carriage for 14 per cent. of the entire force, and, when compared with the present arrangements for the transport of only 10 per cent., presents an economy in expenditure, sufficient to outweigh any objection that can be raised to its introduction. A glance at the following figures will show the justice of this assertion.

Comparative statement of the cost of carrying 10 per cent. of British troops in doolies and 14 per cent. in the manner suggested.

System "A" ...		Ten doolies require 60 kahars and one mate.		
		Each kahar costs	Rs.	18 a month.
		61 kahars cost Rs. 61 × 18, or	1,098	"
System "B" ...		4 doolies require 24 kahars and one mate.		
		25 kahars at Rs. 18	450	
		3 camels (carrying 6 <i>kajawahs</i>) at Rs. 15	45	
		4 mules at Rs. 13	52	
		Total cost of carrying 14 men	547	

Comparing these totals, we find that system "B" gives 40 per cent. more carrying power than system "A," with a reduction of over 50 per cent. in expenditure. Taking a larger instance, the Kuram force at present contains 3,700 European troops. I am therefore probably within the mark in estimating that, taking the average of the eight months from November 1878 to June 1879, the total strength of British regiments and batteries in the Khyber, Kuram, and Kandahar columns amounted to 10,000 men. The cost of providing sick transport for 10 per cent. of these, or 1,000 men, under system "A," is for one month Rs. 1,098 × 100, or Rs. 1,09,800.

The cost of carrying 14 per cent., or 1,400 men, under system "B" is Rs. 547 × 100, or Rs. 54,700. This leaves a net gain of 400 extra men carried and Rs. 55,100 saved monthly, or, for the period of eight months, Rs. 4,40,800.

These figures, though startling, do not represent all the advantages of the proposal, for I have not yet taken into account the number of camels or other transport animals that it would set free to supply the general requirements of the column.

I may assume that the average distance over which the food-supplies of the three columns were carried was at least as great as from Kohat to Peiwar, or, including the return journey, one month's march for camels. The free ration for each follower (see Cabul papers) weighs one seer, two chittaks and ten-twelfths, or, for a month of 30 days, 35 seers and 5 chittaks, and allowing that each camel carries a full load of four maunds, 113 camels will be required to carry a month's provisions for 512 followers.

The total number of followers employed in the transport of the sick with a force of 10,000 men will be, under system "A,"—

With 1,000 doolies, kahars 6,000, mates 120, sirdars 60, total		6,180
Under system "B" —		
With 400 doolies, kahars, &c.	...	2,473
With 300 camels, sirvans	...	75
With 400 mules, mule-men	...	100
Total	...	2,647

Taking these totals, we find that the carriage of food for establishments employed in sick transport will require under system "A" 1363·94 camels, under system "B" 584·20 camels, leaving a balance in favor of "B" of 780 camels; and as these 780 will be accompanied by 195 sirwans, who must also be fed while across the frontier, the gross gain will amount to over 800 camels. System "B" however absorbs in sick transport 300 camels and 400 mules, equivalent to 200 camels, or a total of 500 camels, so that the net gain is only 300 camels.

To recapitulate, the advantages presented by system "B" when compared with that in force during the recent campaign are—

- (1) It affords carriage for 400 extra sick.
- (2) It reduces by 3,533 the number of followers to be fed, clothed, defended and generally looked after.
- (3) It frees 300 camels, capable of bringing to the front 1,200 maunds of supplies monthly.
- (4) It effects in the campaign of eight months a saving of four and a half lakhs of rupees.

Major G. S. White, 92nd Highlanders.

The arrangements for the transport of the sick that came under my notice lately in Afghanistan struck me as bad.

The doolie-bearers with my regiment were chiefly common coolies, not professional kahars. These coolies could barely on fairly level roads stagger along under their empty doolies. The kahars again in their turn became useless on the rough hill-side. Hill-men, accustomed to the work, alone are capable of carrying disabled men when it comes to a climb, and are of vital importance. Without them the first man down must either be left to his fate—generally no uncertain one—or prove an anchor to the force to which he belongs.

D.

ARTILLERY.

1. With the present establishment, could every gun in horse, field, mountain, and heavy batteries be placed in the field, and in how short a time?

Brigadier General C. G. Arbuthnot, Inspector General, Royal Artillery for India.

No. The numbers required of men and horses to admit of every gun being placed in the field must vary according to the season of the year. At the end of April, for instance, when the annual drafts of men and horses have joined their batteries, all that would be required would be additional horses to complete batteries of horse and field artillery to their proper strength for service in the field, and also about 10 per cent. on the ordinary establishments to replace horses considered fit for ordinary drill, but too old, &c., for active service. According to present service establishments, the numbers required to complete are 22 for a battery of horse artillery and 20 for a field battery, or 1,125 in all. On a great emergency, the present establishment of a battery of horse artillery (178) might be made to suffice, but field batteries must have additional horses. I therefore think that under this head, to meet a sudden emergency, about 400 horses would suffice. To replace horses unfit from age and other causes for active service, at least 700 are required for horse and field artillery. Therefore, under the most favorable conditions, to place every gun of horse and field artillery in the field, about 1,100 horses would be required at once; and to distribute these horses would take nearly a month. If it were necessary to place all these guns in the field early in the cold season before the arrival of the annual drafts, about 500 non-commissioned officers and men would be required, as at that season there is always a large percentage of men unfit for active service. About 700 horses also would be required in addition to the numbers already given to replace the annual castings, or about 1,800 horses in all. Therefore at the commencement of the cold season there would be required, to place in the field every gun, horse, field, heavy and mountain, at least—

Non-commissioned officers and men	...	500
Horses	...	1,800

And these could not be obtained in less than three months. The imported horses, moreover, would be unseasoned and unfit for hard work. I say "imported horses," because the number of artillery draught horses required could not be procured in the open market; for they are not in the country, and it is not to be supposed that Government would go to the unnecessary expense of maintaining a reserve of horses sufficient to meet the requirements for active service of the whole of the horse and field artillery in India. A reasonable reserve, however, should be maintained; and on this point I have submitted my opinion in reply to paper L.

Colonel A. H. Murray, Deputy
Adjutant General, Royal Artillery
in India.

No, though batteries at the end of the trooping season, when the drafts have joined, may be considered most efficient; in the event of their being required for service and medically examined, many men would be found unfit for field service, though doubtless perfectly capable of doing garrison or station duties.

The requirements for ten batteries for the Khyber and Kuram forces in Afghanistan at the end of 1878 were 105 men, while the same ten batteries, when again completed for service this month (nine months afterwards), required no less than 241.

From the above it may, therefore, I think, be assumed that an average of 7 to 8 per cent. would be required for every battery when first required to take the field.

As regards the time in which they could be placed in the field, batteries can always be completed from others which remain in garrison without any delay, and the rest depends upon the time taken to provide carriage and commissariat. This again depends upon local circumstances and sources of supply; but once the above is supplied, batteries should be able to take the field in twelve hours.

Colonel C. R. O. Evans, Com-
manding Royal Artillery, Meerut
Division.

I consider that with the present establishment every gun could be at once placed effectively in the field, but for the purpose of a campaign time must be allowed for a battery to obtain its extra horses, second line of wagons, &c.; and as the length of that time will vary so much with the *locale* of the battery, &c., it is impossible to calculate it.

Colonel H. Stroker, Command-
ing Royal Artillery, Thaneemya.

I think that 110 horses would be sufficient, but that as two gunners are now carried on the axletree seats of the guns, and sometimes three gunners on the limber instead of two, some change might be carried out. There would be room on the first line of wagons for 12 and sometimes 18 men; and the weight of the gun-carriage is increased by the weight of three men. The Artillery Hand-book for Field Service for the 12-pounder B. L. Armstrong of the same weight as Mark I 9-pounder gives eight horses for each gun. The only non-commissioned officers that must have horses are the battery surgeon-major, six sergeants as the Nos. 1 of the guns, one shoeing-smith, one trumpeter, one non-commissioned officer attached to the first line of wagons and one to the second line. The farrier, one shoeing-smith, one trumpeter, and the non-commissioned officers who act now as markers might be on the wagons; the Nos. 1 could mark when necessary.

No. of carriages.	Equipment.	Horses.		
		Draught.	Riding.	Total.
6	Guns	48	...	48
6	Wagons	36	...	36
...	Staff sergeant ... ..	...	1	11
...	Sergeants ... ..	...	6	
...	Trumpeter ... ..	...	1	
...	Shoeing-smith ... ..	...	1	
...	Non-commissioned officer attached to 1st line of wagons.	...	1	
...	Non-commissioned officer attached to 2nd line of wagons.	...	1	15
...	Spare horses	12	3	
	TOTAL	96	14	110

On a battery being ordered to go on active service, it is most probable that something like the number I have mentioned to be spare (or 12 draught and 3 riding horses) would have to be supplied to the battery to take the places of those found unfit to go; and in order to keep up the proper number of spare, it is probable fresh ones would have occasionally to be supplied. Some spare bullocks in addition to the establishment would be required. I have had no experience of service in the field in India, but consider that for active service with long marches the employment of women as grass-cutters would not be possible. The battery of field artillery at this station employs them. The battery of 7-pounder steel guns here (*viz.*, 10-8th Royal Artillery) has either commissariat coolies or commissariat elephants. I know nothing of horse or heavy batteries.

Colonel A. C. Johnson, Royal
Horse Artillery.

If the establishment of a battery is complete and in good order, it should be able to take the field as soon as the indents for the necessary carriage are complied with.

Lieutenant-Colonel J. Taylor,
Commanding Royal Artillery,
Mysore Division.

I can only speak as regards horse and field batteries. Every gun could be placed in the field at once with their present establishment, provided every officer, non-commissioned officer, gunner, driver and horse was effective and fit for active service, and there was no delay in the provision of the necessary transport and camp equipage.

Lieutenant-Colonel J. Ketchen,
Royal Artillery.

Yes, with the present war establishment, I cannot speak from personal knowledge of the number of syces as being sufficient, but I have heard that they were found enough in Afghanistan. If fighting went on in the hot weather, however, I think the gunners and drivers would be overworked.

I can only speak for horse artillery.

I can say nothing of the preparedness of the medical department. Formerly the requisites for a battery were always kept ready packed, medicines, instruments, &c., in camel trunks. I believe this is not so now.

If carriage could be supplied for the baggage, a battery could start in 24 hours; but this "if" of course means a great deal.

Major Bertie Hobart, B.A., Military Secretary to His Grace the Governor of Madras.

Yes, I think so, though I have had no regimental experience except in the case of horse batteries for a very long time. Every battery could, I believe, be on a general parade in marching order for any emergency within an hour after "boot and saddle;" but before commencing a march on service, probably 24 hours should be allowed for shoeing up horses, remounting any carriages under repair, packing stores, inspecting camp equipage that it is complete to a tent-peg, recalling harness under repair from collar-maker's shop, and men's clothes from the tailor's shop, and from dhobies' hands, &c.

This is all irrespective of the transport for tent, bedding, &c., and the commissariat coming in. The total time, therefore, required to turn out would depend on the existence at the station concerned of a moveable column, or the facility with which the transport resources of the neighbourhood could be made available.

Major H. C. Lewis, Commanding
1 Battery 1st Brigade, Royal Artillery.

With the present peace establishment, and speaking for field batteries only, I should say "no." Neither horses or men, as a rule, would be up to the establishment. Casualties from sickness would alone prevent it. With the present war establishment every gun, I think, could be placed in the field, but batteries are not kept up to this strength, and so it is difficult to estimate the time that would be required. Additional men and additional horses would have to be posted; extra harness drawn from store; khaki clothing provided; grass-cutters (Bombay) entertained; hospital establishment would require doolies and bearers provided; and a regimental transport of from 300 to 400 camels would be needed, or an equivalent. A baker's and butcher's establishment would probably be necessary. The battery alone is, or ought to be, ready, independent of its strength, peace or war, to march out and encamp at once, i.e., within a few hours. But "taking the field" means that, when once it has marched out, it is to stay out, and that it is thrown on its own resources. It is then dependent on both ordnance and commissariat departments, and under the present regime I cannot give a reliable opinion as to how long it would take to place artillery in India in the field. Some batteries would be ready before others. The average time is what is required. How many batteries in India have their complement of officers?

Major E. T. Hume, Commanding
C Battery C Brigade, Royal Horse Artillery.

In horse batteries they could, allowing only for an average number of casualties.

The time would vary with circumstances.

Major W. W. Munro, Commanding
12-A, Royal Horse Artillery.

The present establishment of royal horse artillery is sufficient: every gun could be placed in the field as a rule. It is only during exceptional sickness that this could not be done. A battery of royal horse artillery ought to be able to march on an emergency in a few hours if carriage can be obtained.

I offer no opinion as to field, heavy, or mountain artillery, as I have never served in any of these in India.

Major T. M. Havelock, Commanding
E-3rd, Royal Artillery.

Horse and field artillery. No! I should think every 5th or 6th battery of each would have to be practically split up, i.e., detached of its best men and horses.

Mountain and heavy batteries. Yes! They are not dependent on European drivers and horses.

Major the Honble A. Stewart,
Commanding I-C, Royal Horse Artillery.

I can only give an opinion as regards the establishment of a horse artillery battery, because I have not time to examine and consider the establishments of the other class of batteries. I consider the present establishment of a horse artillery battery in India excessive, and therefore ample to enable every horse artillery gun to be placed in the field

at a moment's notice: Provided—

- (1) that the establishment is present with the battery ;
- (2) that there is no great amount of sickness amongst the non-commissioned officers and men ;
- (3) that carriage be obtainable.

Major C. F. Nairne, Royal Horse Artillery.

Except in cases of unusual reduction of men from sickness, every battery can march on service in 24 hours after receipt of the order, or in 6 hours after receipt of the necessary carriage.

Major P. FitzGerald Gallwey, Royal Artillery.

I certainly think yes, except perhaps at unusually sickly stations or at peculiarly sickly periods. With regard to the second part of the question, I should think the only delay after receiving the order for service would be in obtaining carriage and recalling officers and men absent.

Major W. H. Noble, Royal Artillery.

It is presumed that the words "placed in the field" mean completely organized on a war establishment; and as the "present establishments" are not on a war strength, it follows that every battery in India could not be placed in the field at one and the same time.

As a rule, batteries in time of peace are not up to full establishment in officers, non-commissioned officers, men, or horses, and as there is no reserve in India, it would be absolutely necessary to draw on one battery to raise another to a war strength.

Moreover, it would be necessary to provide hospital establishment, transport, and in some cases to draw second lines of wagons and ammunition from ordnance charge.

The length of time, therefore, required to place a battery in the field would depend upon the promptness with which the battery requirements were met by the departments concerned.

Major W. R. C. Brough, Royal Artillery.

Of the batteries named, my experience is limited to horse and field. With the present establishment a battery ought, after 1st November, to be capable of taking the field in three or four days. Before 1st November the number of men absent at hill sanatoria would probably delay its preparation: I here merely speak of establishment. Great delay was caused last year by uncertainty as to what kit, clothing, or stores were to be taken with the battery, and from want of arrangement for the disposal of surplus articles. Experience gained during the late war will probably now allow clear orders to be published laying down the exact clothing and equipment required for external and internal warfare. Much saving, too, might be effected by confining the regiments, batteries, &c., most liable for each class of warfare to the kit and equipment they would be likely to require, and by the abolition of the now often useless clothing, &c., supplied by Government.

Major C. Wilson, Royal Artillery.

The present establishment for heavy batteries is sufficient to bring all guns into the field at 24 hours' notice. I consider the establishment for the other nature of batteries is also sufficient.

Captain W. Law, Commanding C-2nd, Royal Artillery.

I have no experience of mountain or heavy batteries. With the present establishments, not more than four sub-divisions could be placed in the field with a sufficient complement of either men or horses. The batteries for Malta received twenty horses and a similar proportion of men.

A battery could march out of its station, handing over in an orderly manner in three days from receipt of the order, or quicker, if a party could be left behind to hand over barracks, &c.

Captain A. D. Anderson, Royal Artillery.

1, 2, 3, 10 & 13. With the present establishments, and system of utilizing them, the 15 horse and 43 field batteries could not be placed in the field under the time that would be required to get from England 1,000 men, or an average of about 18 for each of the 58 batteries; and to collect in India horses for—

15 horse batteries	at 22 per battery	= 330
43 field	" at 20 " "	= 860
Total		1,190

The men are required to take the place of the casualties of the moment and those always invalided at the breaking out of a war as unfit to undergo a campaign, but who have been allowed to serve on in the ranks; and the horses are to complete batteries to the authorized Indian war establishment. The system we were compelled to adopt for this last campaign was as follows:

Numbers varying from 18 to 40 men, and a like number of horses, were drafted from batteries least likely to be required for service and attached to those ordered to the front; and had more batteries been called for in the field, this process of dismemberment would have to have been continued to those left behind; while, had the deputy adjutant-general, royal artillery, been ordered

to place in the field every available battery (as indicated in the question before us), he could only have done so by breaking up as follows:—

6 Batteries horse artillery	at 153 men	= 918 men,
6 Ditto ditto	at 178 horses	= 1,068 horses,
or 6 Batteries field artillery	at 158 men	= 918 men,
10 Ditto ditto	at 110 horses	= 1,100 horses,

or roughly at least 6 batteries of men and 8 of horses.

The result would have been obtained—but at what cost? The statement of the loss of a few batteries by no means truly represents the baneful effects of the working of the system. On those batteries who go to the front, the shock falls lightest. Deficiencies are made up by batches of men (often the worst, never the best, from other batteries) of whom nothing is known and who know nothing of their officers or comrades, and the most crucial test to all—a campaign—is entered on. But on those who are drawn from, the trial falls most sorely. One call for, say, 20 men has to be complied with; perhaps a second for a like number, or a third (men whom you have carefully watched and trained for this very chance); your own battery is then required in the field; the vacancies are filled by drafts from other batteries, strangers in every way, and you go to the front; but instead of starting as a compact, well-drilled body, the unity of battery customs, habits, discipline, drill, everything for which officers and men have striven and worked, is swept away; and when the opportunity for which you have lived arrives, you find your battery a heterogeneous mass of undoubtedly good material, but requiring to be knocked into shape and cohesion as the opportunities of service will allow.

Under present arrangements, I look on the horse question as of little importance, the requirements being so small; but I am convinced that, to secure the true efficiency of batteries in India, it is imperatively necessary that they be kept permanently up to the English war footing of Europeans, as laid down in Army Circular No. 7 of 1878, *viz.*, horse artillery 182 men, field batteries 175 men, including officers, or without these 175 and 163 men, respectively. The scheme, therefore, that I beg to lay before you in substitution of the present system is to place batteries in India on the English war footing of men, with full equipment, harness, saddlery, stores, &c., and on a slight increase on the English peace strength of horses. This very decided reduction of horses in our peace establishment would entail energetic action on the question of horse supply, a difficulty which I hope to prove can be overcome. The establishments of batteries would on this scale be:—

Officers and men.	Royal horse artillery.		Horses, saddlery, and harness.	Royal horse artillery.		Equipment.	Royal horse artillery.	
		Field artillery.			Field artillery.			Field artillery.
Officers.			Horses.			Ordnance.		
Major ...	1	1	Staff sergeants ...	2	2	Rifled muzzle-loading guns.	6	6
Captain ...	1	1	Non-commissioned officers.	12	6			
Lieutenants ...	3	3	Farrier ...	1	1	Carriages.		
Surgeon ...	1	1	Shoeing smith ...	1	1	Guns ...	6	6
Veterinary surgeon ...	1	1	Trumpeters ...	2	1	Wagons { Ammunition ...	6†	6
	7	7	Gunnery ...	36	...	Wagons { Forge ...	1	1
Non-commissioned officers and men.			Spare ...	6	2		13	13
Sergeant-major ...	1	1		60	13			
Quartermaster sergeant ...	1	1	Draught.			Ammunition.		
Sergeants ...	6	6	Guns ...	36	36	Rounds per gun ...	118	149
Corporals ...	6	6	Wagons { Gun ...	8	21			
Bombardiers ...	0	6	Wagons { Forge ...	4	4			
Gunnery ...	70	72	Spare ...	6	6			
Drivers ...	73	65		114	83			
Trumpeters ...	2	2						
Artificers.			Saddlery sets.					
Farrier ...	1	1	Non-commissioned officers and gunners.	70	20			
Shoeing smiths ...	5	4						
Collar-makers ...	2	2	Harness.					
Wheelers ...	2	2	Double sets { Lead ...	32	30			
			Double sets { Wheel ...	17	15			
	182	175		49	45			

In the above, I have added six spare horses to horse and four to field batteries in addition to the English peace establishment, in consideration of horses in this country being inferior in size and class to those in England. This English scale of horses only provides four for each wagon. This I believe to be sufficient for ordinary drill grounds and marches in India. For exceptional cases, exceptional arrangements must be made. It also only provides horses for two wagons out of six in horse artillery batteries, the remaining four I propose leaving with their ammunition complete in battery charge, and when requisite to move them from one station to another in peace time: bullocks for their draught could be hired. The above table gives an increase of 17 men for each horse, and 10 men per

* All wagons 11 ft. x 4 ft.

† Four ammunition wagons without horses.

field battery, in return for which I propose a large reduction of the present establishment of Natives. When one bears in mind the fact that batteries of artillery as they stand on parade in England with their three store wagons (after their complement of horses is made up) are complete in every possible way, except food and forage, and ready for any marches or work, and then recollect the general incapacity for work of the Native follower, when in any way out of his ordinary groove, besides the serious encumbrance they as a class are on the line of march, I submit it behoves us (as far as the climate will permit) to keep our European establishment up to the highest pitch of efficiency and preparation, and to substitute their work in every possible way for that of Natives.

I will now endeavour to shew the increase or reduction in cost in each branch of the establishment on the above scale, including Natives. The establishment proposed shews an increase on the present Indian strength of—for horse artillery 17 men, field artillery 10 men, and would roughly cost the State as follows:—

Horse Artillery.

	Rs.	A.	P.
Pay of 12 gunners or drivers, at Rs. 10 per month ...	2,736	0	0
Pay of 3 shoeing-smiths, at Rs. 33-4 per month ...	1,107	0	0
Pay of 1 collar-maker, at Rs. 30-10 per month ...	367	8	0
Pay of 1 wheeler, at Rs. 30-10 ...	367	8	0
	4,668	0	0
Annual clothing for 17 men, at Rs. 22-9 per annum ...	383	9	0
Rations for 17 men, at Rs. 100* per man per annum ...	1,700	0	0
Total	6,751	9	0

Field Artillery.

Pay of 6 gunners or drivers, at Rs. 17-15 per month ...	1,291	8	0
Pay of 2 shoeing-smiths, at Rs. 30-10 per month ...	735	0	0
Pay of 1 collar-maker, at Rs. 27-15 per month ...	335	4	0
Pay of 1 wheeler, at Rs. 27-15 per month ...	335	4	0
Annual clothing for 10 men, at Rs. 35-6 per annum ...	353	12	0
Rations for 10 men, at Rs. 100 per man per annum ...	1,000	0	0
Total	4,050	12	0

The reduction in horses from the present Indian establishment of horse artillery 178, field 110, to that laid down in the above table of horse artillery 114, and field 83, will be horse artillery 64 horses and field batteries 27 horses, the saving on which will be—

Horse Artillery.

	Rs.	A.	P.
Interest at 4½ per cent. on cost of 64 horses at Rs. 800,* or Rs. 51,200 ...	2,304	0	0
Feeding, shoeing, wear and tear of line-gear for 64 horses, at Rs. 10 per month ...	7,680	0	0
Total	9,984	0	0

Field Artillery.

Interest at 4½ per cent. on cost of 27 horses at Rs. 800,* or Rs. 21,600 ...	972	0	0
Feed, &c., of 27 horses, at Rs. 10 per month ...	3,240	0	0
Total	4,212	0	0

Here, however, lies the most difficult part of the scheme. I believe the establishments of horses lately sent with batteries to Afghanistan, viz., horse artillery 200 horses, field 130 horses, are, and have been proved to be, not one too many for the rough usages of service. Batteries would, therefore, on the outbreak of war have to be raised to those numbers, meaning an increase for horse artillery 86 horses and field 47, or for the 15 horse and 43 field batteries in India of 3,311 horses.

These, or any portion of the same, could, I submit, be procured as follows:—

(1) From the studs, as far as they might be in a position to supply full-aged horses (which number would always be small and quite untrained).

(2) By deputing officers to buy in the local markets.

It is, I believe, an admitted fact that each remount, when made over to the troops, has cost Government at least Rs. 1,000. Why should not Government, therefore, on special occasions do, as was done in England for the large manœuvres and during the preparations for war during the 1870-71 campaign, buy at liberal prices in the open markets.

Imagine 10 officers deputed to the principal towns and horse districts in the country with orders to buy about 350 horses apiece at an average price of Rs. 1,000. Each officer would have in his beat either a capital town and some small stations, or a large number of ordinary Indian cantonments, while all would have some of the Native Princes or gentry within reach. My own knowledge reminds me that the "Seth" at Muntra has 27 pairs of draught horses in his stables; that the Maharaja of Mysore has 150 horses in his stables; and an officer, late Deputy Assistant Quarter-Master General of the Meerut Division, informs me he could guarantee 500 horses in a month from that division alone at that price; while doubtless hundreds of other instances could be quoted. And I am convinced that were Government to take the matter up, these Natives who so willingly offered

* A low estimate of cost to Government of each remount.

their troops would offer their horses, and that the price (a more liberal one might, if necessary, be given, but I consider Rs. 1,000 extravagant) to them as well as to the owners of horses in the different Indian stations would prove such a temptation, that good horses, both saddle and draught, would be forthcoming to the extent required.

I beg leave to quote my own personal experience on this point of purchasing. I was ordered to proceed on the Kandahar column with 48 hours' warning and had no horses. I bought two between Simla and Sukkur for Rs. 400. They carried me from Sukkur to Khelat-i-Ghilzai and back without failing for a day. Surely, they could equally well have carried a non-commissioned officer or gunner. Had I been purchasing for Government, those horses would probably have cost Rs. 300 each, leaving me from an average of Rs. 1,000 at liberty to pay Rs. 1,700 apiece for my next two; and I think there are but few private horses in India that could not be got at that figure. Government could, if they thought fit, register horses in time of peace, and well afford to pay a retaining fee; but I would rather fix the purchasing price at such a figure as to force sales, and that I believe would be the average of Rs. 1,000. Most of the animals thus purchased should be sound enough for practical purposes, and to a great extent broken in and accustomed to work, saddle or harness, infinitely more so than a remount from the stud.

I hear the objection—"Suppose a local rebellion arose?" Then every horse in the country within reach would more than at any other time be available for service. You would also hear—"These horses will be all sorts of colors, heights and ages, and not equal to the stud remounts after they have been kept a short time." True, in some cases; but they will be far superior to them for present hard work, and officers, who now object to horses of a different color, height or stamp from their own, might well take example from the German artillery, who by the time they reached the outskirts of Paris had replaced some of their horses twice over, and whose gun teams presented a most ludicrous appearance, horses and ponies of every class working alongside of each other; still the guns were kept well to the front during the whole of that severe winter.

Our batteries would start with their 114 and 83 horses, respectively, thoroughly trained, and the additional 86 and 47, having been beforehand accustomed to work of sorts, would very soon be knocked into shape, amply sufficient for the requirements of a battery in the field, where the "will and power" to work rank before "appearances."

In consideration of the above full complement of Europeans and reduced number of horses, I propose reducing the present stable establishment to one man (call him syce or grass-cutter) for each horse and ponies, horse artillery 87, and field batteries 70.

It is well known that a *forawallah* brings in grass sufficient for 4 horses; but I would suggest that one pony for every 2 horses goes for grass daily with a man, leaving in the lines for horse artillery 80 ponies and 57 men, and field batteries 28 ponies and 41 men. The ponies to rest and supply casualties in cautions, and on the march to carry the battery tents and the men to help drivers with grooming, to do mid-day stables and any work required in the lines during the extreme heat of the day.

I would propose that these ponies be the property of, and fed by, Government, at the rate of two seers barley per diem, and that the purchasing price, including saddle (grass carrying), gear, &c., be Rs. 40. A glance at the following sums will show the economy of this:—

Horse Artillery.

Interest at 4½ per cent. on cost of 87 ponies at Rs. 40, or Rs. 3,480	...	Rs. 156
Feed of 87 ponies at 2 seers barley per diem, at 15 seers per rupee	...	748
Pay of 114 men, at Rs. 5	...	6,840
Total	...	7,734
Cost of replacing 8 ponies per annum, or 11 per cent., at Rs. 40	...	320
Total	...	8,054

Were the ponies the property of the followers—

87 men's pay, at Rs. 6 per month	...	...	...	Rs. 8,352
27 " " " 4 " "	...	...	...	1,296
Total	...	...	...	9,648

And a somewhat similar result for field batteries, leaving out of the question the far more important view of the case, *viz.*, that on the first plan good strong ponies would be bought, and they would be cared for and regularly fed.

The ponies remaining spare from the above calculation, horse artillery 30 and field batteries 28, should, I submit, be utilized in the carriage of battery tents.

The most roomy, serviceable and portable is, I believe, the small bell tent, capable of holding ten men, or a small-sized double-pole, double-fly hill tent; these, if given to batteries of artillery at the rate of 25 per battery, could at all times be carried on marches and service, Government providing suitable saddles for the carriage of one tent on each pony.

The financial results on the stable establishment would thus be:—

Present Establishment.

Horse artillery—				Rs.
Pay of 118 syces, at Re. 4	...	...	...	5,664
" 178 grass-cutters, at Rs. 4	...	...	...	8,512
Total	...	...	...	14,208

Proposed Establishment.

Interest on original cost of 87 ponies at Rs. 40, at 4½ per cent.	...	Rs. 156
Feed of 87 ponies at 2 seers barley per diem, at 15 seers per rupee	...	4,176
Replacing 11 per cent. of ponies, 8 ponies at Rs. 40	...	320
Pay of 114 men at Rs. 5* per month	...	6,840
Total	...	11,492

or a saving of Rs. 2,716 per annum.

FIELD BATTERY.*Present Establishment.*

Pay of 71 syces, at Rs. 4	...	...	...	Rs. 3,408
„ 110 grass-cutters, at Rs. 4	...	...	...	5,280
Total	...	...	...	8,688

Proposed Establishment.

Interest on original cost of 70 ponies at Rs. 40, at 4½ per cent.	...	126
Feed for 70 ponies at 2 seers barley per diem, at 15 seers per rupee	...	3,360
Replacing 11 per cent. of ponies, 7 ponies at Rs. 40	...	280
Pay of 83 men, at Rs. 5	...	4,980
Total	...	8,786

or a loss of Rs. 98 per annum.

Taking the Native establishment of a battery, I will now note how the work is done in England:—

			<i>H. A. Field.</i>	<i>In England.</i>
Bullock-drivers	...	...	3	3
Jemadar syces	...	...	3	3
Syces	...	...	118	71
Grass-cutters	...	...	178	110
Tindal	...	...	1	1
Store lascars	...	...	12	12
Mutsuddy	...	...	1	1
Weighman	...	...	1	1
Bheesties and puekallics	...	...	4	4
Sweepers	...	...	3	3
Moolies	...	...	2	2
Mistry (carpenters)	...	...	2	2
Filemen	...	...	2	2
Fireman	...	...	1	1
Hammermen	...	...	2	2
Mistry (smith)	...	...	1	1

Conservancy Establishment.

			<i>H. A. Field.</i>	<i>In England.</i>
Bheesties	...	...	1	1
Sweepers	...	...	3	3
Bildars	...	...	2	2
Tent lascars*	...	...	24	24

Without the increase asked for in Europeans, I admit the services of some of these followers are required; but if raised to English war strength, few of them are, I consider, necessary, and the establishment should, I submit, be reduced as follows:—

Followers.			Peace time.		War time.
	<i>H. A. F. A.</i>				
Tindal	... 1	1	Dispensed with. Their duties are amply performed by men in England. In India their chief work is as orderlies.	}	As in peace.
Store lascars	... 12	12			
Mutsuddy	... 1	1	In no way necessary.	}	As in peace.
Weighman	... 1	1			
Bheesties and puekallics	... 4	4	Required	...	Only two puekallics required.
Sweepers	... 3	3	Ditto	...	Only one, to attend on the few Natives allowed in camp.

* Rs. 4 is too little.

† War establishment.

Followers.			Peace time.	War time.
Mochies	... 2	2	Not required. Increased establishment being two collar-makers instead of one.	As in peace.
Filemen	... 2	2	Not required, as increased establishment allows shoeing-smiths horse artillery 5 and field batteries 4, instead of as at present 2 for each battery.	As in peace.
Fireman	... 1	1		
Hammermen	... 2	2		
Mistry (smith)	... 1	1		
<i>Conserancy Establishment.</i>				
Bheestie	... 1	1	These are local requirements and really not battery establishment.	Should belong to line of communications and camp grounds.
Sweepers	... 3	3		
Bildars	... 2	2		
Tent lascars	... 24	24	Not required. If light tents be issued, the work will be far better done by the men.	As in peace.

This, it will be said, throws excessive work on the men, but the proposed increase of Europeans and reduction of horses amply provides for it all.

The work of tindals, lascars, mutsuddies, weighmen and tent lascars is of so light and nominal a description as to be inappreciable; it is ably done by men in England and could be here. Bheesties and sweepers are necessary in barracks to save the men from the sun. On service, only two pukalis need be taken to supply drinking-water; the mass of water-carrying can be done by the men. Sweepers on service are not required for the men, who can dig and fill up their own trench as in Europe. One sweeper I allow for Natives on account of caste prejudices. The men of a battery would thus, as in England, perform their own duties. That it can be done on service has just been amply proved. Syces, tent lascars, store lascars and Native followers generally were on the Kandahar column, but so much encumbrance, employment for doctors and loads for doolies. The British and Native soldiers did all the work, and by the time the higher and colder regions were reached and the European was bursting with life and vigour, the Natives positively died by scores, from nothing but cold and exposure. It might be said the class was bad, but the majority of the followers were no new enlistments.

Also that—"How would the European work in a summer campaign in the plains?" The answer I believe is—"The granting of Native followers should be the exception, not the rule." The results under this head would, therefore, be much as follows, *viz.*, a saving in horse and field batteries of—

Followers.			Horse Artillery.		Field.
			Rs.	Rs.	
1 Tindal, at Rs. 7-8 per month	90	90
12 Store lascars, at Rs. 6 each	864	864
*2 Tent lascars, at " 5-8 "	138	138
Syces already calculated					
1 Mistry (smith), at Rs. 12	144	144
1 Fireman, at " 10	120	120
1 Fileman, at " 8	96	96
1 " at " 7	84	84
2 Hammermen at " 7 each	168	168
1 Mistry (carptr.), at " 14	168	168
1 Carpenter, at " 10	120	120
1 Mochec, at " 10	120	120
1 " at " 7	84	84
1 Mutsuddi at " 5	60	60
1 Weighman at " 4	48	48
Total			...	2,304	2,304

The duties of the European soldier of artillery in this country might, at the same time, be very considerably lessened by adopting some of the practical German ideas on that point. In their army, with a war strength of men and four out of six guns horsed (therefore a minimum of stable duties), they for some five to six months in the winter put their harness, equipments, &c., in soap and oil, and devote the time to education, both ordinary and military, to training up young soldiers and horses; in fact, to all sorts of rudimentary instructions, leaving the field drills, manoeuvres, &c., for the summer months. In England, as in India, our artillery are kept all the year round strung to a concert pitch of drill, appearance, &c., involving regular and continual drills of every sort, stable duties and harness cleaning. What a relief it would be to the British soldier if drill parades, beyond pure exercise, were forbidden in the five summer months; if the horses were expected to be allowed to rest, and only kept clean and well, and the harness to be kept in oil; while the advantage to the State would be proportionately great, if the leisure time thus gained were to be devoted to ordinary school work and instruction in gunnery and military duties generally, of which in our service at present very little goes on.

* Peace establishment, war being 21 each battery.

Proposed Establishment.

Interest on original cost of 87 ponies at Rs. 40, at 4½ per cent.	...	Rs. 156
Feed of 87 ponies at 2 seers barley per diem, at 15 seers per rupee	...	4,176
Replacing 11 per cent. of ponies, 8 ponies at Rs. 40	...	320
Pay of 114 men at Rs. 5* per month	...	6,840
Total	...	11,492

or a saving of Rs. 2,716 per annum.

FIELD BATTERY.*Present Establishment.*

Pay of 71 syees, at Rs. 4	...	...	...	Rs. 3,408
„ 110 grass-cutters, at Rs. 4	...	...	...	5,280
Total	...	...	...	8,688

Proposed Establishment.

Interest on original cost of 70 ponies at Rs. 40, at 4½ per cent.	...	126
Feed for 70 ponies at 2 seers barley per diem, at 15 seers per rupee	...	3,360
Replacing 11 per cent. of ponies, 7 ponies at Rs. 40	...	280
Pay of 83 men, at Rs. 5	...	4,980
Total	...	8,786

or a loss of Rs. 98 per annum.

Taking the Native establishment of a battery, I will now note how the work is done in England:—

			<i>H. A. Field.</i>	<i>In England.</i>
Bullock-drivers	...	...	3	3 } Not required.
Jemadar syees	...	...	3	3 } By men.
Syees	...	...	118	71 }
Grass-cutters	...	...	178	110 } Not required.
Tindal	...	...	1	1 }
Store lascars	...	...	12	12 }
Mutsuddy	...	...	1	1 }
Weighman	...	...	1	1 }
Bheesties and puekallies	...	...	4	4 }
Sweepers	...	...	3	3 } By men.
Moelies	...	...	2	2 }
Mistry (carpenters)	...	...	2	2 }
Filemen	...	...	2	2 }
Fireman	...	...	1	1 }
Hammermen	...	...	2	2 }
Mistry (smith)	...	...	1	1 }

Conservancy Establishment.

			<i>H. A. Field.</i>	<i>In England.</i>
Bheesties	...	...	1	1 }
Sweepers	...	...	3	3 }
Bildars	...	...	2	2 }
Tent lascars*	...	...	24	24 }
				By men.

Without the increase asked for in Europeans, I admit the services of some of these followers are required; but if raised to English war strength, few of them are, I consider, necessary, and the establishment should, I submit, be reduced as follows:—

Followers.			Peace time.		War time.
	H. A.	F. A.			
Tindal	...	1	1	Dispensed with. Their duties are amply performed by men in England. In India their chief work is as orderlies.	As in peace.
Store lascars	...	12	12		
Mutsuddy	...	1	1	In no way necessary.	As in peace.
Weighman	...	1	1		
Bheesties and pukalis	...	4	4	Required	Only two puekallies required.
Sweepers	...	3	3	Ditto	Only one, to attend on the few Natives allowed in camp.

* Rs. 4 is too little.

† War establishment.

Followers.			Peace time.	War time.
Mochies	... 2	2	Not required. Increased establishment being two collar-makers instead of one.	As in peace.
Filemen	... 2	2	Not required, as increased establishment allows shoeing-smiths horse artillery 5 and field batteries 4, instead of as at present 2 for each battery.	As in peace.
Fireman	... 1	1		
Hammermen	... 2	2		
Mistry (smith)	... 1	1		
<i>Conserrancy Establishment.</i>				
Bheestie	... 1	1	These are local requirements and really not battery establishment.	Should belong to line of communications and camp grounds.
Sweepers	... 3	3		
Bildars	... 2	2		
Tent lascars	... 24	24	Not required. If light tents be issued, the work will be far better done by the men.	As in peace.

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	Followers.		Horse	
			Artillery.	Field.
			Rs.	Rs.
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1 " at " 7	84	84
2 Hammermen at " 7 each	168	168
1 Mistry (carptr.), at " 14	168	168
1 Carpenter, at " 10	120	120
1 Mochee, at " 10	120	120
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Total			2,304	2,304

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* Peace establishment, war being 24 each battery.

Captain G. C. Bayley, 13-8th, Royal Artillery.

Lieutenant E. C. Wace, R. A., No. 4 (Hazara) Mountain Battery.

My service having been principally with garrison artillery, I do not feel competent to answer this question.

As regards the *mountain* batteries of *Native* artillery, half the number of guns could always be put into the field at a moment's notice, the baggage establishment of each battery being always kept up on such a scale.

The only delay in bringing up the remaining guns would be that caused by the want of transport.

The establishments permanently kept up in these batteries require no additions on the outbreak of war, with the exception of a reserve of 10 per cent. to supply casualties amongst the gunners and drivers.

2. Can you suggest any measures which would add to efficiency of artillery in India and decrease expenditure?

Brigadier-General C. G. Arbuthnot, Inspector General, Royal Artillery for India.

None, but an entire reorganization of the arm.

Colonel A. H. Murray, Deputy Adjutant General, Royal Artillery in India.

Yes.

I. As regards adding to the efficiency of the artillery in India with decrease of expenditure—

(a) Men of more mature age and service should be sent out, and a stricter medical supervision of those who are sent out is absolutely necessary. I believe many men are unfit at the time of embarkation, do little or no work after they join in India, and if they do not die in the meanwhile, have to be sent home within one, two, or three years of their landing. All this tends to decrease of efficiency and increase of expenditure in supplying men in their places. The same may be said of many young officers who are sent to this country too young and have to be sent home sick.

(b) The supply of line-gear is unsatisfactory in the extreme. I believe a much better description is procurable at cheaper rates. The complaints are general, especially as regards horse brushes, which are useless.

(c) Brown leather accoutrements to all, the same as supplied to mountain batteries. These would be more efficient, much cheaper, easier, kept clean, more soldier-like, and at the same time more useful in the field.

(d) Permanent fittings to all permanent stables, and hence a great decrease in the number of articles of line-gear and weight to be carried. A battery need only have such things as are absolutely necessary in camp.

(e) Division of India into army-corps, and hence arranging reliefs within the army-corps circle instead of all over India, garrison batteries excepted (see my letter No. 8540, dated 3rd September 1879, paragraph 3, subject—1st, "decentralization," clause VI).*

(f) In lessening official correspondence, printing general orders, postage, &c.

(g) Saving in moving about stores, line-gear, and camp equipage, and substitution of "local supply" wherever feasible.

(h) In the horse allowance of medical officers of higher rank. These officers attached to cavalry and horse artillery, of over eight years' service (although they hardly ever ride), got more horse allowance than the major commanding a battery of royal horse artillery. I may here remark that only recently over 5½ lakhs per annum have been saved in the reorganization of the royal artillery. Thus it is not possible, in my opinion, that the expenditure can be further decreased, and there are a few items, such as horsing spare carriages and second lines of wagons, where a slight increase is absolutely necessary to preserve efficiency.

II. As regards increase of efficiency without increase or decrease of expenditure, I would here preface my remarks by observing that some departments, notably the ordnance and commissariat, are, in my opinion, underofficered even in peace time, and are consequently utterly unequal to bear the strain of war time. I believe it has yet to be realized that proper and efficient European supervision is absolutely essential to save expense; and until this is recognized, I fear no remedy will be applied.

Take for instance the late system of contract which existed between commanding officers of batteries and cavalry regiments and the Government. It was admitted that officers derived a certain income from this cause; but I would suggest that it be ascertained what the recent change, viz., the abolition of the system and the supply by Government, has cost yearly in excess of what was paid to officers under the contract. The late Inspector General of Ordnance, Colonel W. C. Russell, by whose department the supply of line-gear on cessation of the contract system was first made, informed me that it would cost several lakhs of rupees. I mention this in proof of my statement, and not with a view or wish to re-establish the system, which personally I was glad to see abolished as being unsatisfactory to officers themselves, as also in placing them, in the opinion of many, in a false position.

It nevertheless establishes the fact that European supervision is essential to control expenditure. The complaints as to the inferiority of the articles now supplied also point to the fact of its being equally, if not more, necessary to efficiency.

The case of the manufacturing departments appears to me as another startling proof of the short-sighted policy of saving expense at the absolute sacrifice of efficiency. There are three assistant superintendents allowed to the four factories. The object of having an assistant is to ensure

* See end of this appendix.

there being an officer in each department learning his duties and prepared to take the place of the superintendent if ill-health or other causes should necessitate his leaving. In the case of the important one of the harness and saddlery factory at Cawnpore, the assistant has been changed no less than twice within the last nine months, while for six months the post was vacant. What is the deduction? *viz.*, that the efficiency of the department which supplies leather for a large portion of India depends upon the health or the life of the present superintendent, and that if from any cause Government were deprived of his services, there is absolutely not one officer sufficiently qualified from previous knowledge of this special department, or even sufficiently versed in all the necessary details of the working of the establishment, so essential to its continuance on an efficient and economical basis, to take his place, and that whoever did so would in consequence be more or less at the mercy of the subordinates. The same may be said of some other departments. The above speaks for itself, and needs no comment.

I cannot dilate too strongly upon the necessity, in my opinion, for adopting the views of those who have the interests of the State at heart, both as regards efficiency and economy. I do not believe there will be found one dissentient opinion as to the truth of what I urge regarding the necessity for extra officers and European supervision; and that there are none who but feel convinced that although at first expense would be caused by the cost of the extra supervision, yet the result in a short time would be a saving of thousands. The Officiating Inspector General of Ordnance, than whom no one has the welfare of his department and its working with all possible economy combined with necessary efficiency more at heart, will, I am sure, bear me out fully, and yet, I believe, all his representations to the above effect and his urgent appeals for an increased establishment of European officers have been of no avail.

Take the number of officers allowed to an army-corps on the home establishment (28), and the number of ordnance officers allowed in this country to a corresponding force in the field, the self-evident conclusion is, I submit, that in this country the ordnance officers have labors imposed upon them which it is physically impossible for them to carry out either with justice to themselves or to Government; and the inevitable result must be inefficiency or loss of stores, or both combined.

I understand that at the present moment there is but one arsenal in the Bengal presidency in charge of an officer on the strength of, and belonging to, the ordnance department, all the others, whether arsenals or depôts (manufacturing departments alone excepted), being filled by officers belonging to, and on the effective strength of, batteries. What can be more fatal to real efficiency than the perpetuation of a system which permits of such a lamentable state of things? But I am convinced that so long as we are content to adhere to old traditions to consider that, because the present "happy-go-lucky" system has obtained in our forefather's time, there is no need for change in our time; so long that we fail to realize that true economy is that alone which finds us prepared for war; that economy at the sacrifice of efficiency is but courting disaster when the struggle comes: so long, I repeat again, as we fail to recognize wherein lies our own interest, our own true economy, so long will nothing be done and no radical good or progress be effected.

I have purposely dwelt thus exhaustively on this subject, because it effects the efficiency of the artillery *most materially*. In this country, so soon as the strain caused by war is felt, calls are made on the artillery to supply officers for the departments, and in consequence of these officers not being seconded, or in other words being left on the strength of their batteries, inefficiency is the result.

In April last an application was made to the Horse Guards (a copy of which was sent to Government) for all temporarily employed in the ordnance department or Punjab artillery to be seconded, and for effective officers to be sent out to fill their vacancies, as also to complete existing deficiencies.

It was also clearly pointed out that even in the event of hostilities being brought to an early close, there was no immediate prospect of all the officers then employed being replaced at the Commander-in-Chief's disposal; while, on the other hand, if the occupation of Afghanistan or any portion of it was prolonged, the retention of the services of a large majority of them in their situations would be necessitated. Further, that at the time, with the reduced number of artillery officers at regimental duty, there was but little or no reserve from which His Excellency could fill vacancies occasioned by sickness, invaliding, or other causes which under the most favorable circumstances must be expected to arise from the contingencies of service in Afghanistan during the hot season without seriously impairing the efficiency of batteries in India.

This was referred to the Secretary of State for India, who nevertheless, in the face of the above urgent representation, did not think it advisable to comply with the request, in the belief that, on the conclusion of hostilities, the officers had for the most part been directed to join their respective batteries. The Secretary of State, however, requested that, as it was represented that the absence of the officers in question was attended with very great inconvenience to the public service, the needful steps for relieving those still absent might be taken at the earliest possible opportunity.

Nevertheless, since April last, when this urgent appeal was made, the officers have been and are still absent, and no remedy has been applied.

Active operations have now again been resumed, and a further demand made for eight officers for the ordnance department. The Bengal, Madras, and Bombay presidencies have been called upon for volunteers, but only six could be obtained. On the 27th September Government applied for the services of a captain; but although this officer did not belong to the battery he was doing duty with, *he was the sole officer with that battery*, and his services could not be spared.

Batteries in the front are still incomplete in officers. I think it will be admitted that there is no branch of the service in which the necessity for a full complement of officers is more absolutely essential to efficiency than the artillery, and yet at this moment, with 18 European batteries in the field and in reserve, there exists this extreme paucity of officers and consequent want of efficiency.

It must further be borne in mind that when any officers of the ordnance department fall sick, fresh application is made for officers to fill their places, while the sick are returned to the regiment as "ineffective" *specimens*!! In the same manner, vacancies caused by promotions, invaliding, death, resignations, &c., in the artillery of the Punjab Frontier Force, Hyderabad Contingent, or Bombay Native artillery, have all to be met by the royal artillery in India.

In fact, there is at this present moment not one single battery south of Rawal Pindi which is effective in officers, or could be made so without dangerously reducing the other batteries, equally badly off, if required to take the field. Such shortsightedness, I submit, deserves serious and very early consideration, and the only way to remedy the evil is in the manner before proposed. I would therefore urge—

First, that the ordnance department be properly officered in peace time;

Second, that when necessity demands recourse to the artillery for additional officers, they should be at once seconded, and their places filled with effective officers;

Third, the same course to be adopted when officers are taken for the Native artillery.

In conclusion, I would state as my opinion that the royal artillery would be efficient and ready at all times to put a sufficient number of guns in the field to meet all possible requirements without delay, were it but kept complete in officers. This is the one cry, the one urgent appeal, not only from this presidency, but also from the Commanders-in-Chief of Madras and Bombay. It is continuous and unceasing.

It is hardly necessary to point out that it is not increasing expenditure as far as this branch is concerned in keeping it complete and up to its recognized and authorized establishment; but, on the other hand, to sacrifice the efficiency of this arm by degrading it of its officers in order to make the working of another, and doubtless equally important, branch feasible during the pressure of war time, with the least possible expense, is, I would urge, fatal policy to both, and utterly without any shadow of justification. Under no circumstances should the necessary expense of the ordnance department be decreased at such a serious cost of efficiency to the royal artillery.

The great demand for non-commissioned officers for employment in the ordnance department also seriously affects the royal artillery; for not only has the regiment to find effective non-commissioned officers for the 18 batteries in the front in lieu of those unfit, but also is called upon to furnish a very large number of non-commissioned officers for the ordnance department. This is due to the small proportion of European non-commissioned officers kept in the department in time of peace, and which is out of all proportion to the number absolutely necessary in time of war. It is true that Government permits the places of these men to be filled up, but all the same undoubtedly the efficiency of the regiment suffers therefrom. The removal of such a number of non-commissioned officers simultaneously must affect the regiment, and, as a matter of fact, the drain has been and is so great, that there has been difficulty in finding men qualified for promotion to fill existing vacancies caused thereby.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

I cannot. I consider the present expenditure on a battery of artillery as the minimum with which to maintain its present high efficiency.

As long as the present organization of the artillery as one enormous regiment exists, I cannot suggest any measures which would add to its efficiency and decrease expenditure.

The major of a battery should be relieved from anxiety as to accounts and office work. Nearly his whole time is now occupied in his office instead of being given to making his men efficient soldiers; this could be done by making the captain responsible for the pay department, the next senior officer for all pertaining to the quarter-master's department, (stores, clothing, &c.), and the next senior for men's records and all other general returns required from a battery. At present the major is a "slave." (I speak the more freely, as I have just now been relieved from the work by promotion.)

I can see no way of reducing expenditure without lessening efficiency.

Major Bertie Hobart, R.A., Military Secretary to His Grace the Governor of Madras.

I think the artillery in all branches is in the highest practicable state of efficiency, except as to the usual number of officers present with the batteries. Wherever there exists any inefficiency for immediate service, any want of discipline among the non-commissioned officers and men, or any slackness in stable management, it is, I feel sure, in a great measure due to the paucity of officers, which is (except perhaps in the horse artillery) the normal state of things in India.

I would not advocate any permanent increase to the establishment of officers with a battery. I think it a matter of which the regiment may be proud that the number of men and horses under the care and command of battery officers is so large. The work can be done, and well done, when all or nearly all officers are present; but to throw more responsibility on each officer in an enervating climate is liable to lead to a perfunctory performance of daily duties.

There ought, therefore, in my opinion, to be a reserve of subalterns; not less than one officer for every three field batteries and one for every four garrison batteries. For the horse artillery the senior subalterns in the foot artillery who are candidates might be detailed to do duty with batteries unusually short of officers, and thus learn their work in anticipation of getting a "jacket."

Of majors and captains I doubt any reserve being required or desirable; since, except in the case of a battery having only very junior lieutenants, I am opposed to taking the command of his proper battery out of the hands of the senior lieutenant, because both the superior officers belonging to it happen to be absent.

I believe many officers in the regiment have earlier learnt the work of command and habits of decision and how to act under responsibility by the chance of commanding a battery than in the ordinary course of picking up information. The captains of batteries of which the majors are present may be considered the reserve for emergencies, when senior officers are necessarily required in other batteries.

A reserve of subaltern officers would be a direct increase of expenditure, but would doubtless result in a saving to the State by the maintenance of discipline, checking crime and irregularities, with consequent prison and hospital expenses, and the loss of men's services, and by the better care of horses, material, &c.

A decrease of expenditure by a reorganization of the artillery is suggested in the answer to the next question; but in reference to the disposition of the artillery in the Madras presidency with the garrisons of Bangalore and Secunderabad, and the force in the Central Provinces, the following distribution might be found sufficient, and decrease the number of batteries and the cost of field artillery establishments.

The table below shows the present and suggested distribution of batteries :—

STATION.	DISTRIBUTION.	
	Present.	Suggested.
Fort St. George ...	1 Garrison battery ...	1 Garrison battery.
Saint Thomas' Mount ...	2 Horse field batteries ...	{ 1 Horse field battery. 1 Bullock field battery.
Bellary ...	1 Horse field battery ...	1 Horse field battery.
Bangalore ...	{ 1 Horse artillery battery ... 2 Horse field batteries ...	{ 1 Horse artillery battery. 1 Horse field battery.
Cannanore ...	1 Garrison battery ... (Now on service and not replaced.)	{ 1 Bullock field battery. 1 Garrison battery. $\frac{1}{2}$ Mountain. $\frac{1}{2}$ Bullock.
Kamptee ...	2 Horse field batteries ...	{ 1 Horse field battery. 1 Bullock field battery.
Secunderabad ...	{ 1 Horse artillery battery ... 2 Horse field batteries ...	{ 1 Horse artillery battery. 1 Horse field battery.
Trichinopoly ...	{ 1 Heavy battery ... 1 Horse field battery ...	{ 1 Bullock field battery. 1 Heavy battery. None.

The above suggestion will reduce five horse field batteries and introduce four bullock field batteries in their place. The garrison battery at Cannanore, it is proposed, should have a mixed equipment.

The reason for stationing a battery on the west coast is that we are bound by Treaty of 1795 to maintain a "company of European artillery" for the protection of Travancore in consideration of a stipulated subsidy. When the field battery is withdrawn from Trichinopoly, as now proposed by this Government, there will be no artillery to represent our performance of the Treaty nearer than Bangalore, some 450 miles from Trevandrum. The normal peaceful condition of Travancore has probably made the rulers of the country acquiesce for some years in an arrangement that only gave them the article stipulated and paid for at 270 miles distant from their capital with a severe ghat country intervening, viz., a battery at Trichinopoly.

The "company of European artillery" which we stipulated to maintain was probably not a merely garrison battery, which is only a company of gunners, but the foot artillery company of those times with post guns, bullocks and lascars: hence the battery representing our obligation might well be so maintained and organized that it would be of service in the Travancore country both for field, mountain, and siege train purposes, and thus be really more useful than a horse field battery.

By the sobering efflux of time the urgency of being prepared for Moplah outbreaks may be diminishing, but the necessity for mountain and field guns might still at any time arise on that account.

As a reserve, a battery at Cannanore is undoubtedly well placed for removal by sea on an imperial necessity arising.

Major H. C. Lower, Commanding I Battery 1st Brigade, Royal Artillery.

Major J. Haughton, 1-8th Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

I cannot. Anything that has presented itself to my mind as adding to efficiency has also meant expenditure.

Mountain battery baggage ponies might be worked by the commissariat, provided they were available for periodical parades at short notice. This used to be done in the case of bullocks belonging to the spare line of wagons in field batteries.

Yes; I can suggest the following :—

1st.—The prohibition of exchanges among officers within one year at least of a battery's leaving England for India.

2nd.—Disallowing the expenses of travelling to officers who are transferred for their own benefit.

3rd.—Prohibiting the volunteering of officers to do other than their own duties.

4th.—Avoiding the appointment of staff sergeants to batteries just about to embark.

5th.—Promoting non-commissioned officers entirely in the batteries.

6th.—Attaching a general service wagon to each battery, and taking away the spare gun-carriage.

7th.—Taking the supply of line-gear out of the hands of commissariat.

8th.—Keeping the stable line-gear with the stables, instead of carrying it about the country with batteries.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

I cannot suggest any measure that would fulfil both conditions of adding to the efficiency and at the same time decreasing the ordinary expenditure.

Increased efficiency would probably give increased expenditure during peace, though it would be a saving during a campaign.

Major T. M. Havelrigg, Commanding E-3rd, Royal Artillery.

Do away with second line of wagons.

Reduce European establishment of gunners and drivers (*not artificers or non-commissioned officers*).

Reorganize Native establishment, and introduce Native drivers for wagons, and horse-trainers.

Reintroduce contract system for all minor repairs and for line-gear, but do *not* make the surplus the commanding officer's property. Let the commanding officer keep a contract fund, furnishing his accounts for audit of the officer commanding royal artillery in the district.

Abolish store limber wagon, carrying stores either by elephants, camels, mules, or smaller carts, according to circumstances.

One spare gun-carriage per battery is more than is required when artillery does not expect to meet artillery in the field, or when the enemy's artillery is of an indifferent order.

Spare gun carriages should be attached to ammunition columns, and not to each battery.

The store cart should be upon springs. Next to the store limber wagon, it is the most inconvenient and cumbersome artillery carriage.

There are too many horses for a time of peace. Some occupation should be found for a portion of the surplus artillery horses of each horse artillery battery.

There are too many sets of horse appointments, which entails waste.

The soldier's kit and appointments are not adapted for Indian warfare, and are unnecessarily heavy.

N. B.—If there are too many drivers in a battery of horse artillery, there are also too many in a field battery.

Major C. F. Nairne, Royal Horse Artillery.

I think that the rule—"If you want a thing well done, do it yourself"—applies also to artillery; and I believe that it is also more economical to the State when the commanding officer is made to keep his own line-gear, harness and carriages in repair; and it is most certainly the most efficient plan.

I. The contract system, now condemned, was by far the best and cheapest, and gave least trouble to the commanding officer.

I have commanded a battery for two long periods under the contract system, and now for four years under the present, and I can safely assert that the efficiency is now less, owing to the difficulty and delay in obtaining the necessary supplies.

The next best plan to the contract is the supply by the commanding officer and the submission of monthly bills for the cost.

II. Many articles of regimental necessaries are now supplied to the men from England, which could doubtless be made in India at a less cost. It is not necessary to have certain patterns, merely because they have the same in England; and I think we are going almost too far to obtain exact uniformity.

III. The health and efficiency of the horses will be improved if the allowance of grain is materially reduced, slightly more green food being given for the whole of the hot weather.

Both man and beast should have a rest for, at any rate, four months of the hot weather, and the present ration of grain is the cause of most of the skin disease, *barsatti*, and malignant fever, which are induced by high food and no work. I have greatly reduced these diseases by working for the last three years on this principle, and one score of grum may safely be cut from every horse; and, in my opinion, the result will be an increase both to efficiency and economy. I can give greater details if required.

IV. I think the present tents needlessly large and heavy. I would not make any more staff sergeants' nor European privates' tents, but substitute double-fly palls, such as are issued to mountain batteries at

present. These tents for mule carriage I consider quite sufficient protection for the height of the hot weather in the plains of India, and would be cheaper to make and lighter to carry.

Major P. FitzGerald Gallwey,
Royal Artillery.

I think it would add very much to the efficiency of the artillery if batteries of the same kind were stationed more together; further, that except where urgent necessity requires it, there should be no single horse or field battery stations. The present distribution does not give a sufficient number of *actual commands* to the lieutenant-colonels. I consider that, with the improved state of the communications in India, so long as we have a certain number of guns in the country in certain areas, our first care should be to collect them at convenient points so as to enable the senior officers to learn their duties *in the field*, and not merely the routine of office work. I find that by such a distribution as I have indicated, there will be actual commands for 32 lieutenant-colonels; this is slightly in excess of the number recently sanctioned; but I would propose to have no others *borne on the strength*, except the above: if this be insisted upon, it will save Government the pay of those lieutenant-colonels who are generally "attached for duty" to stations, but have no commands nor indeed any duties to perform.

In order to show that 32 officers of this rank is about the fair proportion for India, I have counted the total number on all four lists of the regiment *not seconded* and make it 114; but 14 are to be reduced, leaving 100 as the number to be calculated upon. I find there are about 117 batteries out of India to 86 in India (of royal artillery), which would give about 42 lieutenant-colonels to India, but it should be remembered that the garrison royal artillery out of India have much more to do and more fortresses to look after than those in this country: hence there should be a larger proportion of the senior ranks out of India than in it.

I also consider that regimental colonels should only be employed where there are two or more separate lieutenant-colonels' commands under them. It is absurd placing officers of this rank to command three and four batteries, which is the case now according to the last order. In several districts they have absolutely nothing to do but to inspect once a year and sign returns.

I would beg to refer to the map* which I am sending to the Deputy Adjutant General, Royal Artillery, and the explanation accompanying it showing what I propose in the way of artillery commands.

I am of opinion, too, that we have a much larger number of garrison batteries in India than are required. Making every allowance for siege trains and the care of the few forts, worthy of the name, which are to be found in the country, I think five or six garrison batteries might be easily dispensed with. Although in my proposed army-corps scheme I have not shown this reduction, I shall be happy to give the details if required.

I also think it a mistake having so many European mountain batteries. I believe, according to present intentions, there are to be four of these for Bengal (North-West Frontier) and two for Burmah: the latter are desirable, as there are no Natives to be found in those parts fit for the service. But as regards the Punjab, I am of opinion that the Native mountain batteries are *very much* more efficient than any royal artillery battery can be under the system which now exists. In fact, I may say, I think, nothing can be more efficient than the Native batteries on the frontier which I have seen; and I have particularly observed them. I have also had considerable experience in seeing European mountain batteries; and I must confess I cannot understand why Government should increase their number. On the score of expense, of course, there can be no doubt; the difference is enormous, if harness accommodation, married allowances, clothing, invaliding, &c., be taken into consideration. The objection which very properly holds against having any but royal artillery batteries in the plains cannot be said to exist in the case of mountain batteries. In conclusion, I think two European batteries should be the limit for Bengal. I would have one at Khairagalli available for the North-West (to take its turn, of course, along the frontier), and the other at Darjeeling available for the North-East or Burma.

N.B.—The bringing of batteries of the same kind together at stations would facilitate promotion of non-commissioned officers and reduce expense in sending them long distances: *vide* first part of my reply.

Major W. H. Noble, Royal
Artillery.

(a) I would strongly urge that some arrangements should be made by which the major of a battery might be relieved from the excessive office work which he is now called upon to perform. He certainly cannot devote sufficient time to his duties as an artilleryman so long as he is expected to perform the work of a paymaster, a quartermaster, and an office adjutant.

(b) More opportunity should be given of working field guns in large numbers. This might be done by having one station, at least, in India in which a large number of batteries were located.

(c) Some machinery is wanted by which petty stores and minor repairs can be provided for, line-gear for example. A certain sum annually might be placed at the disposal of an officer commanding a battery for this purpose. The expenditure of this money should be accounted for half-yearly in duplicate, one copy being sent through the officer commanding the royal artillery in the particular district to army head-quarters, and the other attached to the equipment ledger which is forwarded half-yearly to the examiner of ordnance accounts.

(d) I do not think it is advisable to use horse and bullock draught in the same battery.

I have had some experience with draught bullocks on a march over such ground as may be expected to be met with in time of war, and my experience is that bullock draught is decidedly unsuitable for batteries of horse and field artillery. All the carriages of such batteries should be horsed, and the establishment of bullocks reduced to about six per battery in time of peace.

Major W. R. C. Brough, Royal Artillery.

The present gigantic size of the royal regiment of artillery appears to me to so directly affect both the efficiency and cost of artillery in India, that I trust, in proposing so strong a remedy as the breaking up of it into small regiments, I may be permitted to enter fully on the disadvantages of the present, and advantages which I suppose might accrue from the proposed system.

DRAWBACKS TO PRESENT SYSTEM IN INDIA.

Efficiency.

Frequent shorthandedness in both officers and non-commissioned officers is undoubtedly a great cause in India of inefficiency in batteries. In the case of officers transfer on promotion or appointment to the horse artillery causes much of this shorthandedness. An officer promoted or appointed home at once escapes to England, but, naturally enough, his successor is seldom in an equal hurry to join his new battery in this country, which is thus often deprived, probably at the most trying season of the year, of the services of a major, captain, or subaltern for many months, and when he cannot be spared. The colonel commanding the officer's brigade is at home, but would have little opportunity of judging of the necessity for his services in India, or indeed perhaps voice in the matter. The colonel or lieutenant-colonel commanding the division or district in India could not be consulted in time; and great as the attention paid both by the deputy adjutant general at home and in India to this point is, India is still such a long way from England that sickness, appointment to the ordnance or staff, may leave a battery far shorthanded than is dreamt of at home by an officer when applying for, or the authorities when granting him, leave. Notice of this leave may not reach India, too, till remonstrance would be useless. I am taking the case of an officer promoted from home. Should he happen to be in China, America, at the Cape, or any other stations abroad, it will in any case take him some time to join, if indeed he is not fairly entitled to do so; in England, and to hope to spend a little time there. I almost think that, even in India, transfer to distant stations tells: an officer is thereby put to heavy expense, and may feel that he would sooner lay out money in exchanging home (thus leaving a "vacancy" for some time) than on a journey from Peshawar to Tonghoo, now that he has had to sell off everything. Had he on promotion but had to join at, say, Rawal Pindi, Umballa, or Meerut, he might have viewed matters differently; as would probably also an officer who found himself transferred on promotion from Rangoon to Tonghoo. I will but just allude to the apparent unfairness of a system of promotion by which one officer, by luck in falling to batteries just home, may remain almost his whole service in England, whilst another may be from ill-luck compelled, unless he exchanges, to remain almost for ever abroad. Paucity of non-commissioned officers arises from two main causes—firstly, non-promotion of any men in lieu of those invalided to England till they are absorbed or discharged at home; secondly, stoppage of promotion to keep vacancies for any non-commissioned officers that may be sent out from home during the ensuing trooping season. Both these causes unfortunately tend to leave batteries shorthanded at the worst time of the year—the summer. Duty then presses heavily on the remaining non-commissioned officers, and they are worn out and energyless by the time that the drill season commences. The present system of promotion to and above the rank of sergeant is, I think, disliked by the men. It is supposed to be by districts. Of two batteries in a district, one may have served eight or nine years or longer in India and have a fair prospect of soon returning home. The other may have just arrived in India. Yet after years of service in India a sergeant or staff sergeant may fall to the newly-arrived battery and have to remain with it, or a new arrival may find

to his delight that he can at once almost return to England. At present this is in a measure avoided by the Commander-in-Chief himself making the promotions, and, when necessary, from outside the district, but not altogether. Under the former brigade system a man knew that, except of his own free will, his promotion would run in his own brigade, all batteries of which would return home about the same time. The great element of uncertainty now introduced prevents many sergeants and corporals being as desirous of promotion as they would have been under the former system, and militates against the chance of newly-arrived batteries.

Cost.

That the cost of providing passage by sea to and from ports of embarkation and between distant stations in India itself for the officers, not to mention non-commissioned officers so constantly transferred, must be an immense expense to the State there can be no doubt; and that my proposal would immensely lessen this cost, both at home and in India, I think I can show, and also probably increase the efficiency of artillery in India.

PROPOSED SYSTEM.

Efficiency.

I have already suggested the breaking up of the royal artillery into small regiments. I will not inflict my own private views of how this might or should be effected, further than to say that, to minimize transfers and for other reasons which will appear, it would, I think, be necessary to have regiments composed alone of field or garrison artillery. Field artillery regiments to include (to each regiment) a certain number of horse artillery batteries. The strength of a regiment might be so regulated that it could furnish batteries to the stations in a certain district at home, in the Mediterranean or in India, close or fairly close to each other, or a certain set of stations in the colonies, yet each regiment of field or garrison be of the same strength of batteries, not alone on account of home reliefs, but in order that in reliefs in India itself it may be capable of taking up the same stations held by its predecessor. Supposing a regiment of field and a regiment of garrison artillery to be capable of furnishing batteries to the frontier and Punjab, these regiments would have their batteries fairly close to each other. The officers, if they had to move at all on promotion or appointment to horse artillery, would only have to move short distances, and would have to join at once (even if in England on leave and their services were required); for before their promotion it would be well known to which battery they fell, and the officer commanding the regiment would doubtless communicate with them. Temporary vacancies from exchanges would probably be far less frequent. The rule of the rest of the service could be introduced; and an officer exchanging from one regiment of artillery to another would go to the bottom of his rank. Now, officers promoted from garrison to field artillery or the other way often exchange to escape from duties which they dislike or have had no experience of. This, too, would be avoided. Though every officer of every regiment of artillery would (unless employed at home, seconded and succeeded) have to take his turn of foreign service, and could only escape by exchanging or retiring, yet I do think that there would be a larger number of officers with their batteries during the service of the regiment in India than are, as a rule, now present; for the stay of the regiment abroad would be limited to the same period as cavalry or infantry (a stay perhaps shortly not to exceed eight or nine years), and all would see a fair prospect of return home. Many batteries now in India can count far longer service than this, with no prospect of return. Regarding non-commissioned officers, in these regiments their promotion could be arranged for with few transfers, and, as in the case of officers, they could always join at once. Officers commanding, knowing the very men to whom promotion must fall, could be permitted to make acting appointments in the place of non-commissioned officers invalided, to become permanent promotions on the invalids being discharged or absorbed in the depot battery. The number of non-commissioned officers likely to arrive from the depot would be small and early known, and there would be no uncertainty and necessity for reserving many vacancies. Non-commissioned officers and men serving always with a fairly small body of officers would know and be known by them, will be more likely to re-engage, and, seeing a good prospect of returning home, be less keen about being invalided.

Cost.

There are at present 15 (including the riding establishment) depot batteries at various stations in the United Kingdom. As the proposed regiments would be much stronger than the present brigades, a less number of depot batteries would suffice, and the saving of cost of officers so effected would more than pay the staff necessary for each depot. Men of otherwise good character but given under "home" temptations, to the crime of desertion, might, as now, be transferred to the depôts of regiments abroad, and soon sent out of the way of tempta-

tion; but the less transfer of non-commissioned officers, and perhaps generally of men, the better. I confess I cannot see any other than the above plan of increasing efficiency and diminishing cost of artillery in India. Creating afresh an Indian artillery for local service might do the latter; but in these days of almost hourly progress, without occasional home service, neither officer nor man can be an efficient artillery man, and it would appear difficult to arrange for this.

Captain W. Law, Commanding
C-2nd, Royal Artillery.

I consider that the efficiency cannot be increased without increased expenditure. What is required for increased efficiency is an increased European establishment.

3. Is any alteration of Indian establishment of officers, men or horses, in a battery feasible by which greater economy can be attained without loss of efficiency?

Brigadier-General C. G. Arbuthnot, Inspector General, Royal Artillery for India.

The establishment of horses in a battery of horse artillery might be reduced by ten in peace time.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

I do not recommend any alteration in the establishment of officers and men now with batteries in this country. From personal experience of command of horse and field batteries in Bombay, Sind Punjab, and Gwalior, extending over eight years, combined also with the knowledge which I gained as adjutant of a field brigade for three years in this country, and that which my present post affords me ample opportunity of obtaining, I do not consider any reduction of men could be made without positive decrease of efficiency, and that even with the present number it is not at all times, in exceptionally sickly season or epidemics, possible to turn out all the wagons for want of drivers, or all the guns, except by working with reduced numbers of gunners. In addition it must be remembered that a certain number of gunners and drivers are sent to the hills during the hot season: under no circumstances therefore would I recommend any reduction. Neither would I reduce a single European soldier in India. The establishment was barely adequate for our possessions prior to the Afghan campaign, and I doubt its being equal to the requirements of our new frontier.

As regards the royal artillery, I believe its establishment is now reduced to a minimum. It is supposed always to be on a war footing, but the establishment is, as before shown, barely equal to this. It is only necessary to refer to the morning states of batteries in the plains especially during the hot season, to see at a glance that the "number of men fit for duty" is not one too many. Indeed, to horse the spare carriages, a small increase of drivers will probably be necessary.

The number of lieutenant-colonels at present sanctioned is too few, especially when the necessities of Kandahar, Pishin, Kabul, Kurram, and Khyber are considered. The Secretary of State has based the present number sanctioned on the *corps d'armée* system, but the calculation made was erroneous. It has been pointed out, and five more demanded for India.

Again, quarter-masters and quarter-master sergeants (who are not authorized) are absolutely necessary for efficiency, especially at the larger stations, where three or more batteries are located together.

It has been pointed out that, if quarter-masters and quarter-master sergeants are essential to the efficiency of regiments of cavalry and infantry (which undoubtedly they are) for conservancy purposes, &c., &c., they are equally necessary for a division of royal artillery of much larger strength, more extended lines, and larger proportion of Native establishment; but up to the present moment, though the saving by the reorganization has been so enormous, and every endeavour made to save expense to Government in this branch, it will scarcely be credited that these ranks are still not yet sanctioned for the royal artillery, though considered necessary for the other branches.

This is clearly answered by the above in the negative.

Colonel C. R. O. Evans, Com-
manding Royal Artillery, Meerut
Division.

Colonel H. Strover, Commanding
Royal Artillery, Thayetmya.

I consider that there must be less work to be done now by the collar-maker, farrier, and wheeler's shops than before the contract system was done away with. The farrier could be supplied with ready-made shoes. Six or eight horse-keepers for each of the three divisions of a battery of field artillery would be sufficient: they could be employed in the stables in the heat of the day and assist with the harness. A small reduction could be tried in the artificers' establishments I have mentioned, and the matter looked into again after a year's trial. The mountain artillery have no European artificers as a rule, nor have the heavy artillery.

No.

Lieutenant-Colonel J. Taylor,
Commanding Royal Artillery, Mysore
Division.

Lieutenant-Colonel J. Ketchen,
Royal Artillery.

I think certainly not,

Major Bertie Hobart, B.A., Military Secretary to His Grace the Governor of Madras.

The establishment of battery officers most certainly cannot be reduced, and a proportion of supernumerary subaltern officers ought to be allowed to India as above stated.

The establishment of non-commissioned officers and men, I believe, is generally sufficient to admit of ordinary invaliding to hill stations, sickness and casualties, though most batteries from time to time make an outcry about being shorthanded.

The establishment of horses now laid down for horse artillery and field batteries is, I am of opinion, not more than is required, unless the usual regimental etiquette of bringing every wagon on to a marching order or general battery parade is modified into bringing one for each half battery or each division according as horses are effective, in order to allow of some spare draught horses being always present in the field for casualties in the gun teams.

The present proportion of spare horses might be told off to each battery for service, but the greater number kept with a depot troop as suggested in question 21.

In the way of a general reduction of establishments, I would revert to the organization of the local artillery in India previous to 1857. I believe it answered all the requirements of Indian service, and it has a great deal to recommend it on the score of direct economy in men and horses.

I mean—

(1) The gunner and driver system in horse artillery and horse field batteries.

(2) Pole draught in both branches, and the riding of the horses by certain numbers of the gun detachments in the former.

(3) In each battery a certain number of gun lascars for the service of ammunition, and syce drivers for the centres of wagons and spare horses, &c., under European command.

(4) A proportion of heavy field batteries with bullock draught instead of field batteries, at some two battery stations, such heavy batteries being little more than the *personnel* of garrison batteries, and the field exercise being limited to the simplest manœuvres. A bullock battery is not certainly adapted for rapid marching, but may be quick enough as a reserve. The advantage of a garrison battery having the ability to march, and yet be independent of stable work, is that the battery is available for station duties as garrison artillery, or for transfer at short notice. The regular gunners might at certain stations be supplemented or replaced at the post guns by volunteers.

A reintroduction of the above organization must depend on the re-establishment of a local artillery, as such change could not be made applicable to batteries coming from home, and belonging to an organization adapted for service where there can be no Native regimental auxiliaries.

If it be objected that the old horse artillery system could not for many reasons be adopted and practised side by side with the separate detachment system, such changes as I suggest might be limited to the home and local field batteries being on the same footing, and to a proportion of garrison batteries (all such being local) having light siege train, heavy field and mountain equipments respectively attached. The horse artillery batteries like the European cavalry should be all from the home establishment.

As regards the gunner and driver system and objection on the score of heavy gunners riding draught horses, it may be noted that it is not less possible now than formerly in India; in fact the reverse, as the men are not generally of such a heavy stamp as those who then enlisted, and the stud bred and Australian horses are bigger than Arabs and Persians, though the exchange for the latter may be deplored, as some loss in stamina and endurance under hardship. A proportion of men of the present driver standard would very properly always be enlisted for permanent driving duties.

As regards pole draught, I have always felt that the smartness and precision given by shafts to manœuvring is obtained at the expense and difficulty of maintaining a supply of especially large wheel horses, and at an increased difficulty of hooking in or replacing disabled shaft horses in comparison with the ease of shifting pole horses, particularly with nervous or half trained remounts, reduced detachments, &c., on service. With pole teams all the hand horses can be ridden, and except as to breechings and wheel traces, every horse is equipped alike,—a simplicity lost with a shaft team. Economy is also apparent in such details. As the former system is still in the recollection of so many officers of the regiment, I only throw out these suggestions with a view to economy; and as I believe the organization of the local artillery had been brought to a great state of efficiency in 1856-57, the details of the system might be followed and resumed in most respects with advantage.

Major H. C. Lewis, Commanding 1 Battery 1st Brigade, Royal Artillery.

I can think of no such alteration. Certainly no officers or men can be spared; and from my late experience in Afghanistan, I found all the horses absolutely indispensable.

Major E. T. Hume, Commanding
C Battery C Brigade, Royal Horse
Artillery.

Major W. W. Murdoch, Com-
manding E-A, Royal Horse Artil-
lery.

Major T. M. Hazelrigg, Com-
manding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

Major C. F. Nairne, Royal Horse
Artillery.

Major P. Fitzgerald Gallwey,
Royal Artillery.

No alteration that would combine greater economy with equal efficiency.

The difficulties in replacing horses and men in case of casualties occurring are so great, that I do not think the establishment could be diminished.

Were it possible to fill up with men and horses as casualties occur, the establishment of both might be slightly reduced.

If every soldier sent to India was over two years' service, I believe it would be found greatly to increase efficiency, as probably sickness among the troops would be materially diminished. This I know according to the present system is next to impossible.

No! Unless surgeons instead of surgeon-majors are attached.

Officers no; non-commissioned officers no: all will be required for supervision. Men yes, by substitution of *unarmed* Native for *unarmed* European drivers of ammunition wagons and spare carriages: (A certain number of the syces could become drivers.)

Employ Natives, under supervision, to break horses. Undoubtedly there are too many horses in a horse artillery battery for absolute necessity. The surplus being reserve, each reserve pair of draught horses should have a Native driver and be used *moderately* for local purposes.

Each reserve riding horse should have a Native syce, rider and trainer, until drafted permanently into its place.

I think it worthy of consideration whether by altering the carriage of the ammunition of first line of wagons, at any rate of some batteries, you might not secure more economy and from the nucleus of various kinds of transport for the ammunition which might prove very useful in case of war beyond the frontier.

If each battery's line of wagons had—

battery	half	half-horsed wagons, ammunition	pack
		bullock wagons	
		or camel	
		or mule	
		or pony	

(the ammunition columns being planned upon the same principle), you could rapidly organize ammunition transport at any given point upon the frontier, of whatever kind you might desire, without entirely denuding any battery of its first line supply, whilst you would be able more leisurely to reform what had been taken.

If ammunition columns are introduced, the second line wagons would be discontinued, and 50 bullocks and their drivers reduced. This, however, will only shift expense from a battery to the ammunition column.

Bullocks should not be kept for the second line, as their pace is so different to that of the rest of the battery, that even on the line of march it takes one officer and a certain number of men just double the time to do the march required for the rest of the battery.

If the retention of the second line wagons be decided on, I would abolish the 50 bullocks and add 22 more horses to the peace establishment of royal horse artillery batteries, and have the second line drawn by horses; but then an addition of 18 drivers would be necessary.

II. In peace time I think seven horses might be reduced from batteries of royal horse artillery, four leaders, three detachments.

III. Surgeons-major do not require allowance for three chargers.

I think not in horse or field batteries; but I am strongly of opinion that a saving might be effected in heavy and mountain batteries by reducing them to four guns.

As regards heavy batteries, the present armament (of some at least) is—

3	40-pr. R. B. L. guns.	
2	8"	}
2	5½"	
		mortars.

I venture to say that the mixing up of so many different pieces in the same battery is a mistake, and further that, certainly as regards the 5½" mortars, they are utterly useless. It is difficult to conceive any operation in the plains of India or in any tolerably open country which could not be much more effectively carried out by 40-pr. guns than by S. B. mortars. If any very exceptional operation where extreme high angle fire were required, a mortar could always be obtained from the nearest arsenal; besides we have (or are to have) siege trains which contain pieces suitable for such work. The 40-pr., from its extreme accuracy and long effective range, can reach any place likely to be met with. I therefore consider that a heavy field battery or "battery of position" should consist, as at home, of four 40-pr. guns; and as long as we have a supply of them and their ammunition, there can be no better guns than the Armstrong 40-pr.

The saving in *personnel* would be as under:—

Present.	With four guns.
1 major.	1 major.
1 captain.	1 captain.
3 lieutenants.	2 lieutenants.

<i>Present.</i>	<i>With four guns.</i>
2 staff sergeants.	2 staff sergeants.
4 sergeants.	4 sergeants.
4 corporals.	4 corporals.
4 bombardiers.	4 bombardiers.
1 smith.	1 smith.
1 wheeler.	1 wheeler.
2 trumpeters.	2 trumpeters.
70 gunners.	48 gunners.
<hr/> 93	<hr/> 70
5 horses.	4 horses.

At present the fifth horse is for one of the sergeants, who is called a "cattle sergeant." I should make the quarter-master sergeant do this; his duties are far lighter than in horse or field batteries.

The total saving in officers, men, and horses would be—

- 1 lieutenant.
- 22 gunners.
- 1 horse (and 1 syce).

An increase of three elephants would be necessary, but the number of bullocks would be reduced as under:—

<i>Present number.</i>		<i>Bullocks.</i>
	4 40-pr. ...	60
300	10 wagons and carts ...	114
	Spare 20 p. c. ...	40
		<hr/> 234

saving 66 bullocks.

There would be a corresponding reduction in sirdar drivers, drivers, blistics and one or two others.

Four wagons per gun are kept up with bullocks, &c., during peace time. Carrying with the gun limber 122 rounds apiece, I question whether three wagons per gun would not suffice; they would carry 94 and could be made to carry 100 rounds a gun. This is a very fair allowance, considering that a shell every three minutes would be quite enough to fire in any case where there was an *urgent call* for the battery in the plains of India, and the ammunition at this rate would last 20 hours' continued firing.

If this reduction were made, the fourth wagon could be kept in battery charge at the station, bullocks only being supplied for it if necessary.

Next, as regards mountain batteries, how few places there are on the hillside where a good position for all six guns of a battery is obtainable. Moreover, the united command of more than four guns is, from the same cause, not often practicable. The officers I have spoken to in the frontier Native batteries are in favor of four guns. Apart from the reasons already assigned, there is a much less train of animals and baggage, and this is a great consideration in hill warfare. I would therefore recommend that *all* mountain batteries should be limited to four guns. The royal artillery batteries require a major, a captain, and *two* subalterns, with a reduced establishment of men, mules and followers, which is easily arrived at.

I think the true principle to be followed in army organization is to limit the strength in men and horses during peace to that absolutely required to carry on the duties of drill and ordinary movement, and to fill up to full strength from a reserve in time of war.

Now we have no reserve of gunners or drivers in India. Moreover, batteries in India, as regards non-commissioned officers and men, are on the home peace establishment already. We cannot therefore reasonably reduce this strength. In the matter of horses, however, I would suggest that the present establishment in India should be reduced in time of peace and increased in time of war.

I annex two tables showing the authorized peace and war establishments at home and in India, and the proposed peace and war establishments in India.

The latter has been framed on the following principles:—

- (a) The peace establishment in India as regards men to be on the same scale as the war establishment at home.
- (b) Horse artillery to differ from field artillery only in number of riding horses, saddlery, and mounted accoutrements.
- (c) All carriages in a battery to be horsed in time of war.
- (d) All carriages in time of peace, except the six gun-carriages, to be drawn by either four horses as at home, or by bullocks if on a route march.
- (e) Drivers of spare gun-carriages and three wagons carrying reserve ammunition to be Natives, so that these carriages in time of war could be organized as part of an "ammunition column," driven by Natives under European supervision; the Native establishment of each battery to provide for this.
- (f) The number of carriages on a war establishment at home and in India to be the same.

Major E. T. Hume, Commanding
O Battery C Brigade, Royal Horse
Artillery.

Major W. W. Murdoch, Com-
manding E-A, Royal Horse Artil-
lery.

Major T. M. Haveling, Com-
manding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

Major C. F. Nairne, Royal Horse
Artillery.

Major P. Fitzgerald Gallway,
Royal Artillery.

No alteration that would combine greater economy with equal efficiency.

The difficulties in replacing horses and men in case of casualties occurring are so great, that I do not think the establishment could be diminished.

Were it possible to fill up with men and horses as casualties occur, the establishment of both might be slightly reduced.

If every soldier sent to India was over two years' service, I believe it would be found greatly to increase efficiency, as probably sickness among the troops would be materially diminished. This I know according to the present system is next to impossible.

No I Unless surgeons instead of surgeon-majors are attached.

Officers no; non-commissioned officers no: all will be required for supervision. Men yes, by substitution of *unarmed* Native for *unarmed* European drivers of ammunition wagons and spare carriages. (A certain number of the syces could become drivers.)

Employ Natives, under supervision, to break horses. Undoubtedly there are too many horses in a horse artillery battery for absolute necessity. The surplus being reserve, each reserve pair of draught horses should have a Native driver and be used *moderately* for local purposes.

Each reserve riding horse should have a Native syce, rider and trainer, until drafted permanently into its place.

I think it worthy of consideration whether by altering the carriage of the ammunition of first line of wagons, at any rate of some batteries, you might not secure more economy and from the nucleus of various kinds of transport for the ammunition which might prove very useful in case of war beyond the frontier.

If each battery's line of wagons had—

battery {	half {	half-horsed wagons, ammunition	} pack
		bullock wagons	
		or camel	
		or mule or pony	

(the ammunition columns being planned upon the same principle), you could rapidly organize ammunition transport at any given point upon the frontier, of whatever kind you might desire, without entirely denuding any battery of its first line supply, whilst you would be able more leisurely to reform what had been taken.

If ammunition columns are introduced, the second line wagons would be discontinued, and 50 bullocks and their drivers reduced. This, however, will only shift expenso from a battery to the ammunition column.

Bullocks should not be kept for the second line, as their pace is so different to that of the rest of the battery, that even on the line of march it takes one officer and a certain number of men just double the time to do the march required for the rest of the battery.

If the retention of the second line wagons be decided on, I would abolish the 50 bullocks and add 22 more horses to the peace establishment of royal horse artillery batteries, and have the second line drawn by horses; but then an addition of 18 drivers would be necessary.

II. In peace time I think seven horses might be reduced from batteries of royal horse artillery, four leaders, three detachments.

III. Surgeons-major do not require allowance for three chargers.

I think not in horse or field batteries; but I am strongly of opinion that a saving might be effected in heavy and mountain batteries by reducing them to four guns.

As regards heavy batteries, the present armament (of some at least) is—

3	40-pr. R. B. L. guns.
2	8" } mortars.
2	5½" }

I venture to say that the mixing up of so many different pieces in the same battery is a mistake, and further that, certainly as regards the 5½" mortars, they are utterly useless. It is difficult to conceive any operation in the plains of India or in any tolerably open country which could not be much more effectively carried out by 40-pr. guns than by S. B. mortars. If any very exceptional operation where extreme high angle fire were required, a mortar could always be obtained from the nearest arsenal; besides we have (or are to have) siege trains which contain pieces suitable for such work. The 40-pr., from its extreme accuracy and long effective range, can reach any place likely to be met with. I therefore consider that a heavy field battery or "battery of position" should consist, as at home, of four 40-pr. guns; and as long as we have a supply of them and their ammunition, there can be no better guns than the Armstrong 40-pr.

The saving in *personnel* would be as under:—

Present.
1 major.
1 captain.
3 lieutenants:

With four guns.
1 major.
1 captain.
2 lieutenants.

Present.
 2 staff sergeants.
 4 sergeants.
 4 corporals.
 4 bombardiers.
 1 smith.
 1 wheeler.
 2 trumpeters.
 70 gunners.

 93

5 horses.

At present the fifth horse is for one of the sergeants, who is called a "cattle sergeant." I should make the quarter-master sergeant do this; his duties are far lighter than in horse or field batteries.

The total saving in officers, men, and horses would be—

1 lieutenant.

22 gunners.

1 horse (and 1 syce).

An increase of three elephants would be necessary, but the number of bullocks would be reduced as under:—

*Present
number.*

Bullocks.

	4 40-pr.	...	...	80
300	19 wagons and carts	...	...	114
	Spare 20 p.o.	...	...	40
				<hr/> 234

saving 66 bullocks.

There would be a corresponding reduction in sirdar drivers, drivers, bhistics and one or two others.

Four wagons per gun are kept up with bullocks, &c., during peace time. Carrying with the gun limber 122 rounds apiece, I question whether three wagons per gun would not suffice; they would carry 94 and could be made to carry 100 rounds a gun. This is a very fair allowance, considering that a shell every three minutes would be quite enough to fire in any case where there was an *urgent call* for the battery in the plains of India, and the ammunition at this rate would last 20 hours' continued firing.

If this reduction were made, the fourth wagon could be kept in battery charge at the station, bullocks only being supplied for it if necessary.

Next, as regards mountain batteries, how few places there are on the hillside where a good position for all six guns of a battery is obtainable. Moreover, the united command of more than four guns is, from the same cause, not often practicable. The officers I have spoken to in the frontier Native batteries are in favor of four guns. Apart from the reasons already assigned, there is a much less train of animals and baggage, and this is a great consideration in hill warfare. I would therefore recommend that *all* mountain batteries should be limited to four guns. The royal artillery batteries require a major, a captain, and *two* subalterns, with a reduced establishment of men, mules and followers, which is easily arrived at.

I think the true principle to be followed in army organization is to limit the strength in men and horses during peace to that absolutely required to carry on the duties of drill and ordinary movement, and to fill up to full strength from a reserve in time of war.

Now we have no reserve of gunners or drivers in India. Moreover, batteries in India, as regards non-commissioned officers and men, are on the home peace establishment already. We cannot therefore reasonably reduce this strength. In the matter of horses, however, I would suggest that the present establishment in India should be reduced in time of peace and increased in time of war.

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(c) All carriages in a battery to be horsed in time of war.

(d) All carriages in time of peace, except the six gun-carriages, to be drawn by either four horses as at home, or by bullocks if on a route march.

(e) Drivers of spare gun-carriages and three wagons carrying reserve ammunition to be Natives, so that these carriages in time of war could be organized as part of an "ammunition column," driven by Natives under European supervision; the Native establishment of each battery to provide for this.

(f) The number of carriages on a war establishment at home and in India to be the same.

Detail of 9-pr. R. M. L. batteries in men and carriages on the peace and war establishments as at present authorized at Home and in India and as proposed in India.

ESTABLISHMENT IN MEN AND CARRIAGES.												
PARTICULARS.				AT HOME.				IN INDIA.				
				PEACE.		WAR.		AT PRESENT.		PROPOSED.		
				Horse.	Field.	Horse.	Field.	Peace.	War.	Peace.	War.	Field.
<i>Men.</i>												
Staff sergeants	...	...	...	2	2	2	2	2	2	2	2	2
Sergeants	...	...	...	6	6	6	6	6	6	6	6	7
Corporals	...	...	...	5	5	6	6	6	6	6	6	7
Bombardiers	...	...	...	5	5	6	6	6	6	6	6	6
Gunners	...	...	...	70	60	70	76	76	76	76	76	76
Drivers	...	...	...	61	61	73	63	54	54	64	64	64
Trumpeters	...	...	...	2	2	2	2	2	2	2	2	2
Artificers	...	...	...	7	7	10	9	5	5	5	5	5
TOTAL	...	...	...	158	154	175	183	157	158	167	168	168
<i>Carriages.</i>												
Gun	...	...	...	6	6	6	6	7	7	7	7	7
Wagons	{	Limber ammunition	...	2	6	6	6	12	12	6	6	6
		Forge	...	1	1	1	1	1	1	1	1	1
		Store lumber	...	...	...	...	...	2	2	2	2	2
Cart	{	Ammunition and store	...	...	...	...	...	...	...	...	...	...
			...	...	...	...	...	1	1	1	1	1
TOTAL	...	...	...	9	13	16	10	23	23	20	20	20

ESTABLISHMENTS IN HORSES.

REQUIREMENTS.		AT HOME.						IN INDIA.					
		PEACE.		WAR.		HORSE.		AT PRESENT.		HORSE.		PROPOSED.	
		Horse.	Field.	Horse.	Field.			Peace.	War.			Peace.	War.
<i>Riding.</i>	Staff sergeants	2	2	2	2	2	2	2	2	2	2	2	2
	Non-commissioned officers	12	6	12	12	18	18	12	12	12	13	6	13
	Farriers	1	1	1	1	1	1	1	1	1	1	1	1
	Shoeing-smiths	1	1	3	1	2	2	1	1	1	2	1	1
	Trumpeters	2	1	2	2	2	2	2	2	1	2	1	2
	Gunnels	36	...	36	...	36	36	...	...	36	36	...	...
	Spare	2	2	6	4	13	13	...	2	5	10	2	4
	Total Riding	56	13	62	22	74	74	20	20	58	66	13	23
<i>Draught.</i>	Guns	36	36	36	36	36	36	36	36	36	36	36	36
	Wagons	8	24	36	6	36	36	36	36	24	36	24	36
	Spare gun-carriage Carts Spare	4	4	6	6	6	6	6	6	4	6	4	6
	
	
	
	
	
	
	
	Total Draught	62	66	100	102	104	126	90	110	76	138	76	138
GRAND TOTAL		108	79	163	124	178	200	110	130	134	204	89	161

It appears from the foregoing tables that the proposed establishment would entail the following changes:—

(a) An increase of ten drivers to each battery of horse and field artillery in India.

(b) A decrease of forty-four horses in royal horse artillery, and twenty-one horses in royal artillery, batteries on a peace establishment.

(c) An increase of four horses in royal horse artillery, and thirty-one horses in royal artillery, batteries on a war establishment.

Those batteries which belonged to brigades on a war strength would of course be always on a war establishment of horses.

Major W. R. C. Brough, Royal Artillery.

I cannot think that any reduction in the number of officers to a battery is possible without loss of efficiency. In horse and field artillery I believe no reduction can be safely made in non-commissioned officers or drivers or in gunners in the horse artillery; but in a field battery, where none of the gunners need be trained horsemen or are employed as horse-holders, 16 gunners might be spared. This would leave with the No. 1 (a non-commissioned officer) eleven men per gun; and as six can work our present gun, allow for some casualties. This reduction I would not make in batteries stationed near the frontier or in a few other positions in India. It has been found possible at home to diminish the number of wagons with a field battery to three in time of peace; and I see no reason why this should not also be done in many parts of India. The reduced battery would be far from incapable of taking the field in case of disturbance. It would have a fair supply of ammunition to begin on; and as there would be a wagon to each division, the smallest unit of artillery permitted, two guns, could be detached. At home the number of wagons with a horse artillery battery is still further reduced; but this seems hardly advisable in India. I would suggest their reduction to three also. These reductions not to affect batteries on the frontier or other stations as before. I have already, speaking of transport, ventured to sketch the large depôts which it will, I think, be found necessary to establish; and I would propose that the three other wagons of each of these batteries should be stored in the nearest ordnance depôt. We may almost hope that such disturbances will never again arise in India as to demand the services of every battery at once and for a long period; and I would only propose to have at each depôt horses for a certain proportion of these reserve wagons. These horses to be worked by syco-drivers in transport of ammunition, ordnance stores, &c., during peace; but on a battery or batteries being required for service, the wagons and their horses, with their harness and kit, to be despatched by rail to the most convenient spot, where the European drivers of the battery would be awaiting them, and whence they could be marched under its captain to join the battery if it had gone on (the syco-drivers would belong to the ammunition column, and would not therefore accompany the horses.) A reduction of the number of wagons to three would admit of twenty draught horses being taken from each of the batteries. It may be asked how in case of movement the line-gear is to be carried. My suggestion is to leave the parts of it not required in cantonments. Every horse in the battery has already on him a head-collar and picketing chain. A nose-bag, brush, and carry-comb are also carried by him. Two blankets—and more clothing no horse requires in India at any season; can be carried, as now, on valises and lids of boxes, the picketing ropes on each gun limber, leaving heel ropes and kegs and a feed of grain for the wagons. The horses to be retained at the depôts for the reserve wagons need not be of the expensive class required with the battery. The stout horse "not trooper height," be he country-bred, Northern, Persian Gulf Arab, Deccanee or Mysore-bred, commands little money, might be effectively used in these wagons, and would be suitable for the work I propose for him in peace time. Guns must have power in draught to enable them to loose the least possible time between points of action. Wagons can follow much more quickly, yet arrive in time to supply ammunition as required. The three wagons with the battery horsed with the present class would form a reserve to supply and in peace keep on supplying the guns. In other branches of the artillery I will only suggest that perhaps officers commanding mountain batteries will be found to be able to spare a few of the big gunners who now play with the little guns; and that should the requirements of Indian forts be found to admit of batteries being kept together, a major, captain, and three subalterns would be capable of managing a district and garrison battery of double the present strength—a saving of the cost of half the present officers and staff.

Captain W. Law, Commanding C-2nd Royal Artillery.

I think certainly not. These establishments are already below the minimum necessary to enable a battery (horse or field, I have no other experience) to turn out efficient for service.

Captain A. D. Anderson, Royal Artillery.

See answer to question 1.

4. What are your views with regard to the maintenance of the second line of wagons?

Brigadier-General C. G. Arbuthnot, Inspector General, Royal Artillery for India.

Second line wagons should be abolished.

Colonel A. H. Murray, Deputy Adjutant General, Royal Artillery in India.

I.—To do away with second lines in artillery charge in peace time, except at certain stations where it may be desirable to keep them up owing to isolation, and then to have three extra wagons horsed at all times.

II.—In time of war to have all second lines reduced from six to three wagons, and which in the plains or for country beyond the sea admitting of draught, should be horsed; but in places where draught is not suitable, the ammunition to be carried on pack animals. This will give in the field artillery in peace time—

Shrapnel shell	...	...	112
Common "	...	...	32
Case shot	...	...	4

148

rounds per gun; and in war time and at stations where the extra wagons are kept up an addition of—

Shrapnel shell	...	...	42
Common "	...	...	12

54

rounds per gun, being a total of—

Shrapnel shell	...	...	154
Common "	...	...	44
Case shot	...	...	4

amounting to 202 rounds in all per gun.

This I think under ordinary circumstances may be accepted as sufficient to be in artillery charge.

III.—I would also horse the spare carriages. This has been done in the batteries in the Khyber and with great advantage. It stands to reason that the spare gun carriage, store limber wagon, and store cart carrying the half wroughts, tools, &c., necessary for repairs, should be at all times well up with the battery, and which with bullock draught is impossible. Very often they are not in camp till late at night, and the delay caused by want of tools, &c., is serious.

IV.—Assuming, therefore, that bullock draught is done away with in horse and field artillery, I would propose the retention of five of these animals with each battery instead of seven as hitherto allowed for the purpose of removing litter from the lines, taking stores, &c., to and from the station, bringing in earth for stable, conservancy, repair of walls, standings for horses, &c., and for numerous other purposes for which these animals are daily utilized and required by every battery; and as regards horse artillery, I consider a reduction of six sets of riding appointments per battery quite feasible. As far as saving in horses is concerned, I think 16 in all might be dispensed with by each battery in time of peace with the present organization; but these would be required for horsing the two spare carriages, viz., spare gun carriage and store limber wagon, as previously advocated, and the permanent saving effected would, therefore, be the 17 bullocks now used for this purpose.

In the stations where the three extra wagons proposed for war establishment are kept up, 18 additional horses would be required as a minimum, but against these there would be the reduction of 42 bullocks or the whole number now sanctioned for the second line of wagons, except the five previously referred to.

To recapitulate: The present strength in horses of batteries of horse artillery not located at isolated stations will horse the two spare carriages, and all bullocks (except five), viz., 54, can be dispensed with while at isolated stations; bullocks as above can be dispensed with, but 18 extra horses with harness and 9 European drivers will be required.

As regards field artillery, field batteries will require 14 more horses for their three spare carriages, viz., spare gun carriage, store limber wagon, and store cart; and against this item there will be a permanent saving of 24 bullocks, while at stations where batteries are not supplied with the three extra wagons (proposed for war establishment), a further saving of 42 bullocks will be effected; or, deducting 5 from these for battery purposes, makes a total of $24 + 42 - 5 = 61$.

Each battery kept up to war establishment will, as in the case of the horse artillery, require 18 additional horses and harness; also nine drivers.

In addition to the batteries at isolated stations above referred to, certain batteries belonging to *corps d'armée*, any portions of which are ordered to be kept up to war strength, should also be equipped with the three extra wagons; these will be in proportion to the number of troops kept ready for immediate service.

It might happen that some of the batteries at out-stations to which it is proposed to give the three extra wagons would, from their position in *corps d'armée* circles, be included among those required to be kept up to war establishment under the army-corps system; but under all circumstances, whatever be the force laid down as necessary to be kept in readiness to take the field, batteries in recognized proportion to such force should be at all times retained in a state of preparedness.

I think the arrangements existing previous to the late war, as regards their maintenance at certain stations only, were quite satisfactory. The change of frontier will naturally affect an alteration in these stations; but I would adhere to the principle, which is sound.

I consider the present system, which appears to me to be similar to that followed in England, a good one, except that, as in this country, they may be required at short notice; where there are bullocks in the care of the commissariat for the second line of wagons, the battery should parade with them once a fortnight, thus parading with two lines of wagons. But where bullocks may not be available, the officer commanding the battery should inspect the wagons once a month, and be responsible that they are fit for immediate service. This is more necessary when the wagons are filled with ammunition, as plugs are liable to corrode in the shells, R. L. percussion fuzes to get verdigris on them, and the wheels also, or rather the axletrees, require grease occasionally.

I am of opinion that, unless the second line of wagons is horsed, which would add considerably to the expense, they could advantageously be dispensed with, the ammunition, stores, &c., being carried in boxes to be devised for that purpose equally suitable for mules or camels.

Reports on this subject were forwarded through the Assistant Adjutant General, Field Force, South Afghanistan, in May last.

I consider that the second line of wagons, as drawn at present, *i.e.*, by bullocks, is an encumbrance to a battery. I therefore believe it might be dispensed with.

In the recent campaign in Afghanistan, the complement of syces allowed was 10 per cent. on the peace strength of horses per battery, with one additional syc per horse of the number to increase to war strength, making a total of 31 syces.

By the work done during the campaign it was proved, therefore, that it was possible to do without the peace complement of these followers, but I noted at the time that it appeared to me very questionable if it would not have been better to have taken no syces whatever, and in their stead to have taken an equal number of drivers (Europeans). The latter would have been a great augmentation to the effective strength of the battery.

Syces can doubtless be trusted with night duty in the stables in peace time; but I do not think they can be depended on for such duty on service under supervision of course in both cases, and even picked men succumbed to the effects of cold and exposure and became all but useless.

I also noted the following calculation at the time: the rations too carried for Natives are all but as heavy as for Europeans:—

<i>Europeans.</i>		<i>Natives.</i>	
1½ lbs. of bread.		1 seer of atta, wheat or rice =	2 lbs.
1 lb. of vegetables.		Ghee, salt, dhall, &c., about	½ lb.
½ lb. tea, sugar, salt, &c., &c.			
Total	2½ lbs.	Total	... 2½ lbs.
	Wood, bought.		
	Meat, driven.		

It appeared to me too very doubtful if the Native artificers were of much use in the campaign, as they did not appear to have the stamina to withstand the hardships and do their work, and as they took time to cook their food.

I would prefer having the number of European artificers increased and the Native artificers abolished for such a campaign.

My battery was quartered in Sind before the campaign. There batteries are supplied with fodder by the Commissariat department, and have no grass-cutters. On being ordered on service, we were supplied with grass-cutters, though from the accounts of the country to be passed through it appeared certain grass would not be found along the route.

As it turned out, the grass-cutters did next to no work as such, and they were most of them sent back from Kandahar, and another large batch of them was sent back after our advance on Girishik.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Colonel H. Stroker, Commanding Royal Artillery, Tinnetuay.

Colonel A. C. Johnson, Royal Horse Artillery.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

I cannot see how, if a large army is on the move, it can be supplied with fodder by grass-cutters; from the very nature of this and neighbouring countries it seems impossible to feed a large number of animals with the grass just found along the route.

Even in peace time there are many routes where grass is difficult to procure. Any one who has marched along the Grand Trunk Road from Lahore to Peshawar knows of the difficulty of getting grass along it, by simply cutting what can be found.

I think, therefore, that grass-cutters might be dis-established altogether, and that the commissariat should supply fodder both in peace and war.

What I have said about syces and Native artificers applies to a campaign in a cold climate. Whether they could be dispensed with in a campaign in the plains of India during the hot season I cannot say; but should judge that they could not.

I would keep them up as at present; their maintenance costs "nothing;" the bullocks are used in all stations by the commissariat.

I would however strongly recommend a pair of shafts for or horse draught to be carried under each wagon body of the second line.

I do not think the maintenance of a second line of ammunition wagons of the field artillery pattern anywhere necessary, although certainly at stations remote from arsenals and depôts, and near the north-west frontier of the Empire, and in or overlooking Native States (if not everywhere). I would let each battery have a reserve of ammunition packed in cases as received for the ordnance department with carts of a strong rough sort for bullock draught, though not too high or heavy, so that the ordinary bullocks of the country may be used when large Government bred bullocks are not available. The description of cases should be such that they can be opened for inspection, and the ammunition or the cases themselves (see appendix A) easily transferred to limbers or wagon bodies; and the pattern of carts such that, though they could not carry kits, line-gear, or the dismounted escort on a march, might be used when empty for various cantonment purposes.

It could be advantageously abolished. The wagons drawn by bullocks hamper the movements of a battery and throw extra work on officers, men, and horses.

The second line cannot keep up with the battery, and without labor from horses and men that have enough, and sometimes even more than enough in other directions, they could not keep up at all. During the march to Candahar several teams of horses had to go back day after day some miles to help to bring the second line into camp, and this generally, of course, after the heaviest marches. It was heart-breaking and harassing.

The ammunition can best be carried on the backs of camels, mules, or ponies.

There would be little difficulty in designing boxes to contain it. It would then never retard progress, but would always be up with the baggage and camp equipage; of course separate and under a special guard. Less than 30 camels, I think, were required, but say 50 were needed, to carry the ammunition, stores, and a small field forge. You would at once do away with six ammunition wagons, one store wagon, and one forge; the latter would release six horses, and the other carriages 44 bullocks. The six horses could then be utilized for the spare gun-carriages, and that would give eight more bullocks, and if good boxes were designed for the conveyance of office books, stationery, &c., &c., the store (or "captain's") cart would not be needed, nor any bullocks. *On service*, then, I propose to do away with the forge, the store-limber wagon, the store cart, and the second line of wagons, and to substitute—

- (1) a small forge to be designed for carriage on camels or mules;
- (2) boxes for quarter-master's stores likewise designed for similar carriage;
- (3) boxes to contain office material, which with a table and a few stools could be carried as above;
- (4) ammunition boxes for carriage as above.

The transport question comes further on in this paper.

I always thought the second line of wagons was maintained with advantage to the service. The bullocks were employed by the commissariat in useful work, and yet available at fixed times for marching order parades.

I consider their maintenance with batteries to be unnecessary.

Lieutenant-Colonel J. Ketchen,
Royal Artillery.

Major Bertie Hobart, R.A.,
Military Secretary to His Grace
the Governor of Madras.

Major H. C. Lowes, Commanding
1 Battery 1st Brigade, Royal
Artillery.

Major J. Haughton, 1-8th Brigade,
Royal Artillery.

Major E. T. Hume, Commanding
C Battery C Brigade, Royal Horse
Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

Major T. M. Hazelrigg, Commanding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

Major C. F. Nairne, Royal Horse Artillery.

Major P. Fitzgerald Gallwey, Royal Artillery.

Major W. H. Noble, Royal Artillery.

I consider that a second line of wagons is necessary and must be maintained.

Do away with them.

By all means abolish them.

Circumstances might still arise in India which would make it necessary for batteries to have all their ammunition at any rate in the same station with them, i.e., that a battery should be independent for a time, if at a distance from an arsenal. Therefore, if ammunition columns are not instituted, certain batteries must keep up their second line wagons.

I have always been of opinion that it is a great waste of money keeping up second lines of wagons in peace time with our present system. Of course they are required in war; but even then commanding officers look upon them as an incumbrance.

Owing to the isolated position of portions of the army in India, and to the possibility of communication between different parts of India being interrupted or cut off, I am in favor of keeping in battery charge a proportion of reserve ammunition such as that represented by the second line of wagons.

It does not follow, however, that this reserve should be carried in the field by means of limber ammunition wagons; on the contrary, it should, in my opinion, be packed in wooden boxes and metal-lined cases of such dimensions and weights as would admit of either camel or mule transport.

But as a wheeled vehicle is the best of all transport, I would arrange that this reserve of ammunition could be so carried.

This might be done as follows:—

(a) Abolish second lines of limber ammunition wagons.
(b) Issue three ordnance store carts (two-wheel with sides) to each battery, such carts to be adapted for either bullock or horse draught, or, if carts be objected to owing to the weight thrown on the shaft and horse's back when going down hill, substitute wagons of a pattern somewhat similar to the home general service wagon.

(c) Issue such a proportion of ammunition packed in boxes and metal-lined cases of the dimensions above referred to as will admit of the load of each cart or wagon not exceeding 30 maunds.

(d) In time of peace let the ammunition be placed in regimental store, and the carts or wagons used for carriage of forage or other purposes in the lines being drawn by bullocks. When the battery takes the field, let the ammunition be placed in the carts or wagons, and the latter be drawn by horses.

These carts or wagons could then either accompany the battery as a reserve, or a number of them might be formed into "ammunition columns," as circumstances might require.

My object is—

1st.—To pack the reserve ammunition, so that it can be carried by wheeled transport or pack animals.

2nd.—To give each battery in time of peace three useful vehicles of a pattern which can be employed for other purposes than carrying ammunition.

3rd.—To provide an army in the field with a number of strong and commodious vehicles, which on an emergency can be employed in carrying provisions, &c. Witness the service performed lately by the siege train ordnance carts on the march up the Bolan. The ammunition packed in boxes and metal-lined cases was taken out of the carts at Dadur and stored in tents, while the carts were used to throw 3,000 maunds of commissariat stores into Mach. When this service was performed, the ammunition was replaced in the carts, and the train proceeded on its march up the pass.

Major W. R. C. Brough, Royal Artillery.

Major C. Wilson, Royal Artillery.

Captain W. Law, Commanding C-2nd Royal Artillery.

I cannot see the use of maintaining a second line of wagons drawn by bullocks with horse and field artillery. The advantage of this class of artillery, mobility, is thereby neutralized, or the second line wagons are deserted and left useless as a source of supply in action. With an efficient "ammunition column," their services would not be required.

I would replace the second line of wagons by ammunition train on mules or camels.

I think it is an economy as well as adding to the efficiency of the battery. When the wagons are with the battery, the bullocks are available for station duties. If the wagons are collected in an arsenal and the bullocks massed at one station, bullocks must be hired for out-

station work. Moreover, the care of the wagons and ammunition is rendered easier by distributing them, while they are at once ready for field service.

Captain A. D. Anderson, Royal Artillery.

I urge the abolition of the second line. The wagon itself is cumbrous, and bullocks, when the country to be traversed is in any way difficult, are utterly unfit for the work. This was amply proved on the Kandahar line, where 1 horse, 4 field and 2 heavy batteries started with full complements of animals. The second line of wagons of all horse and field and two complete lines of both heavy batteries were handed into store at Quetta or Kandahar, owing to the complete collapse of the bullocks.* Even up to these points the horses had to be sent constantly back to do their work. If wagons be kept, 4 wagons horsed are preferable to 6 with bullocks. I would, however, recommend the ammunition of second line wagons being packed in leather boxes, similar to those issued to mountain batteries and carried on ponies. Six hundred and forty-eight rounds with cartridges and small stores have to be carried per battery. The shell and shrapnell with odds and ends weigh considerably over 9 lbs., and for simplicity of calculation will be taken at 10 lbs. each.

	lbs.
648 shells at 10 lbs. ...	6,480
648 cartridges at 1 lb. 12 ozs. ...	1,134
Fuzes, implements, &c., at ...	900
150 lbs. for each wagon.	

Total ... 8,514

or loads for 43 ponies at 200 lbs each, while the addition of seven more animals, or a total of 50, would provide for the carriage in a similar manner of the articles now dispersed over the store limber wagon and store cart; the spare gun carriage should be horsed on service. The above would dispense with the necessity of the present peace bullock establishment, the saving on which would be—

Horse artillery—	Rs:
Pay of 8 bullock-drivers, at Rs. 5 ...	480
Feed of 17 bullocks, at 3 seers of gram.	1,224

Total ... 1,704

Field—	
Pay of 12 bullock-drivers, at Rs. 5 ...	720
Feed of 24 bullocks, &c.	1,728

Total ... 2,448

The number of bullocks actually. is only seven in peace time, but the above extra number are kept by the commissariat for each battery, and are at their disposal when required, therefore should be counted. This arrangement would, I submit, enable the second line ammunition to accompany the battery at any reasonable pace and over difficult country.

The peace establishment of ponies has now been distributed as follows :—

Horse artillery—	Rs.
Carrying grass ...	57
„ tents ...	25
Total ...	82

leaving five spare.

Field—	
Carrying grass ...	42
„ tents ...	25

Total ... 67

and three spare.

The war establishment, horse artillery, 200 and field 180, are thus disposed of—

Horse artillery—	Rs.
Carrying grass ...	100
„ tents ...	25
„ second line ammunition ...	50

Total ... 175

or 25 spare.

* Thence ammunition was carried forward on camels.

	Rs.
Field—	
Carrying grass ...	65
" tents ...	25
" second line ammunition ...	50
Total	140

or ten over the establishment, necessitating the purchase of about twenty extra to allow some spare animals. If all the batteries were required to fill up their pony establishments for service, 4,375 animals would be required for this purpose.

Thirteen thousand ponies and mules were bought in five weeks for the Bengal famino transport in the districts between Benares and Umritsar:—

	Rs.
Ponies averaging ...	22
Mules averaging about ...	70

Eight thousand ponies were during the months of July, August, and September 1874 registered and held by a retaining fee ready for service in the Purneah district alone; so I think when it is borne in mind that here the collection would be extended over the whole of India, and that the price is liberal, there need be no fear of a deficiency.

I will now give a short summary of the above propositions and their financial results:—

	Increase.		Decrease.
	Rs.		Rs.
European establishment ...	6,715	...	...
Horses ...	...	...	9,984
Stable establishment ...	...	...	2,716
Native followers ...	...	...	2,304
Bullocks and bullock-drivers ...	...	...	1,704
	6,715		16,708

or a reduction of Rs. 9,993 per battery per annum.

	Increase.		Decrease.
	Rs.		Rs.
European establishment ...	4,050	...	...
Horses ...	...	...	4,213
Stable establishment ...	98	...	...
Native followers ...	...	...	2,304
Bullocks and bullock-drivers ...	...	...	2,448
	4,148		8,964

or a reduction of Rs. 4,816 per battery per annum. These figures for the 16 horse and 43 field batteries in India would, therefore, give a total reduction of Rs. 3,56,983 per annum, and without considering the saving on carriage of tents at manœuvres and on marches. These calculations are roughly worked out, but intentionally not sanguine; and I take the liberty of impressing on the Committee that economy will be by no means the most valuable point of the scheme if considered feasible.

Batteries will, I submit, gain greatly in efficiency. With the proposed large number of men and reduction of horses, guards, duties, stable work, everything will fall light. Leisure will be found available for the instruction of the men in the many points in which their education is deficient. Men can be to a much greater extent than at present taught trades in the different battery-shops. European labor in these artificers' shops will be substituted for Natives. Native followers will be reduced to a minimum. Batteries in peace time would be independent as regards the carriage of their tents, while on service their second line of ammunition can accompany them anywhere, as also their tents; while in the event of an extraordinarily sudden move there are ponies sufficient for carriage of second line ammunition and tents, making arrangements for grass from commissariat, or locally, or substituting bhoota, grain, &c., for it for the first weeks or so till the full complement of ponies arrived. The weak point also of the scheme is, I submit, taken at its worst. Calculations have been made for placing every battery in India in the field at one time, and thereby creating a heavy demand for horses and ponies. Such a contingency is extremely unlikely, unless on the outbreak of a local rebellion, when, however, every horse and pony would, more than at any other time, be at the service of the State. Ordinary requirements would, I expect, be raising to a war footing half the horse and field artillery in India (more than was required in the last campaign), and requiring the purchase of 1,700 horses and 2,200 ponies.

Captain G. C. Bayley, 13-8th
Royal Artillery.

See answer to question 5.

5. And as to the introduction of "ammunition columns"?

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Colonel H. Stroyer, Commanding Royal Artillery, Thayetnyo.

Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

Major H. C. Lewes, Commanding 1 Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

Major T. M. Hazelrigg, Commanding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

Major O. F. Nairne, Royal Horse Artillery.

Major P. Fitzgerald Galloway, Royal Artillery.

Major W. H. Noble, Royal Artillery.

Major W. R. C. Brough, Royal Artillery.

Captain W. Law, Commanding C-2nd, Royal Artillery.

Ammunition columns should be introduced, but to be of service the wagons must be horsed.

I think the introduction of these in a modified form would be advantageous.

Ammunition columns are of course a necessity for a campaign; but on economical grounds I would not advocate their introduction into the service in time of peace.

Ammunition columns would be most useful for small-arm ammunition and for a siege train, also reserves of field artillery, &c.

I consider that as far artillery is concerned, ammunition columns might well take the place of the second line of wagons.

I have no special views on ammunition columns or opinions to offer founded on experience; but holding, as I do with (I believe) the majority of officers in the army, that there is nothing like a regimental system in every department to ensure efficiency and hearty work, I should say that every regiment and every battery ought on service to have its own first reserves of ammunition with the necessary transport train, such trains being combined in columns or separated, according as the corps are moving in brigade or detached.

The artillery should have with its batteries the amount of ammunition as now carried, including that of the second line. Ammunition columns properly organized are very desirable; but every regiment as well as every battery should have sufficient ammunition under its own immediate control to ensure it against not only the probability but the possibility of running short at any time.

There should be an ammunition column in each district or division.

I would advocate the introduction of ammunition columns.

Form them at all stations where there are divisional head-quarters.

And introduce ammunition columns.

I am in favor of the introduction of ammunition columns.

I am sure the present system does not work on service. I would therefore have the means of equipping an ammunition column on the English *principles* at each of the four following arsenals:—

Rawal Pindi or Ferozpoor, or half at each.

Bombay.

Madras.

In considering the question of ammunition columns and their introduction into India, it must be borne in mind that, although this organization has been adopted at home, it has no existence, except upon paper.

Such an organization is simply a "delusion and a snare."

If it were necessary to mobilize an army-corps in England at the present moment, the only way in which the six batteries required for the reserve ammunition columns could be organized would be by taking officers, men, and horses from the royal artillery, and thereby reducing the efficiency of that arm.

I am therefore opposed to the adoption of the ammunition column system for India as organized at home, because I am sceptical as to the expense being authorized in time of peace which would be necessary to render this organization efficient in time of war.

I should think their introduction most necessary for the reserve ammunition, not alone of the artillery, but of all arms.

And on the outbreak of hostilities could be formed into divisional ammunition columns. They ought not to encamp or march with the batteries on a campaign, as they lengthen columns and spoil the mobility of a battery.

Captain A. D. Anderson, Royal Artillery.

Organized ammunition columns would undoubtedly increase efficiency, and would do away with the necessity for second lines of wagons in battery charge; but they would require to be able to move and keep pace with the advance. Had General Stewart's entry into Kandahar been in any very ordinary way opposed, he had only 256 rounds a gun at his command and not another round nearer than at least one month's march from him. His Excellency the Commander-in-Chief has assembled a committee, of which General Arbutnot is president, to work up this question. Its decisions will, I am sure, prove valuable, and will, if carried into effect (or some similar scheme), dispense with the necessity of carrying second line ammunition on ponies as before suggested, and allow of these ponies being used for carriage of men's bedding, kits, &c., and go far towards rendering batteries independent of extra carriage for such purposes. But I am convinced that, whatever organization may be decided on, one of our greatest evils in carriage of our ammunition is the wagon itself,—a lumbering cumbrous article, weighing double as much as the ammunition it carries. The toil and labor of getting these unwieldy vehicles to the front can be testified to by any officer who was on the Kandahar column. I beg to attach a short paper* on this point from Lieutenant Western, Royal Horse Artillery, advocating limbers. This or some other simple substitute could, I am sure, be found to lessen the present waste of powder on the present wagons.

Captain G. C. Bayley, 18-8th, Royal Artillery.

So far as my knowledge goes, I should be inclined to think the second line of wagons might advantageously be got rid of, *provided*, and *provided only*, that efficient ammunition columns were introduced. With the ammunition in its limbers and one line of wagons, a battery should be able to get through a hard-fought battle; and any more material than may be necessary for this object appears to me to be an incumbrance. But should there be any doubt as to the possibility of having efficient ammunition columns ready to take the field at once on the outbreak of a war, I should prefer to keep the second line of wagons. My idea is, that troops should never be exposed to the possibility of having to fight two general engagements without a fair prospect of being able to replenish their ammunition; but, on the other hand, that neither regiments nor batteries should be encumbered with more than enough for one day's hard and long-continued fighting: any further supply to accompany troops in the front line (or at the head of a column) should be in ammunition columns.

Lieutenant E. C. Wace, R.A., No. 4 (Hazara) Mountain Battery.

I am of opinion that ammunition columns should always be formed, and attached to divisions in the field, their position in the column being regulated by the proximity or otherwise of the enemy. On the present scale of 12 gunners per gun (mountain batteries), it is impossible in time of war to provide a sufficient number of men to look after the reserve ammunition, or to protect it on the line of march, casualties and men on other duties being allowed for. It is essential, therefore, that the reserve ammunition of a battery be taken out of the hands of the commanding officers of batteries, and be placed in a general reserve under commissaries of ordnance, assisted by a trained staff of non-commissioned officers, and escorted by a suitable number of cavalry and infantry especially told off for this purpose, and thereby obviating the evil of weakening first one regiment and then another by detaching companies for escort duty.

6. What should be their organization for Indian service?

Brigadier-General C. G. Arbutnot, Inspector-General, Royal Artillery for India.

Wagons with horse draught should be maintained at the rate of one per two guns for a certain number of guns, and located in units of three at different stations. Forty-five wagons should, I think, be so located on our principal lines of communication as to be available for a force of 90 guns in the Punjab or on the North-West Frontier; and 21 more should be located so as to be available for operations in other parts of the country. On service these wagons would form a divisional reserve, and would be under the orders of the artillery commander, and not attached to batteries. Such a reserve with bullock draught would be useless: horse draught is absolutely necessary.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

In the plains of India I would have the three ammunition wagons of every battery (drawn by horses as proposed) collected, formed into columns, and regularly organized, either by brigades or divisions, according to the size of the force, and be in charge of selected officers, non-commissioned officers, and men of the royal artillery.

* *Fide* appendix XXIX.

They should form a portion of the force in the same manner as the ammunition columns at home, for which purpose batteries of royal artillery are taken.

Across the frontier the columns should be composed of trains of mules, ponies, or camels, the ammunition being carried in boxes specially constructed for the purpose.

Each unit or number of units *having one class of ammunition* should be formed into separate columns, under separate officers, non-commissioned officers and men, to be supplied by the garrison artillery. In the case of a single mountain battery, a conductor of stores in charge would suffice instead of an officer. All the columns attached to any one force should be under the command of, and be supervised by, an officer of superior rank—a lieutenant-colonel or major.

In this way supervision of the ammunition, proper care of the loading and feeding of the mules, &c., would be ensured, as also that the ammunition would be at all times ready when required.

The system would be military; and the columns being disciplined and organized under artillery officers and men, great efficiency, I am sure, would result. Relief would also be afforded to the battery commanders, who in the field would be far more profitably employed in the performance of their more legitimate duties than being harassed, as is now very often the case, in looking after their reserve ammunition.

It would so very much depend upon the nature of the country to be operated in, and the enemy to whom we might be opposed, that it is difficult to lay down any definite organization; but I would deprecate in the highest degree the system lately proposed at home, of sacrificing the *personnel* of a battery of artillery for such a purpose. In this country, a selected captain, a couple of subalterns, and a few non-commissioned officers of artillery should, in a very short time, be enabled to turn out an efficient ammunition column with syce drivers.

They could be part of a land transport or commissariat transport corps, aided largely by the carts, &c., of the country. In New Zealand the commissariat transport corps consisted of a few companies of infantry, who had charge of horses, carts, harness, &c.; but in India, when Natives could be depended on, one-half or two-thirds of the drivers could be Natives.

They should be under officers of the ordnance department, who should be of sufficient standing to have junior officers of all branches under them. Steady, intelligent non-commissioned officers from each branch should also be employed.

Pack horses, mules, and ponies or camels for transport. Ammunition packed in specially designed boxes, with description of ammunition painted thereon, the boxes themselves being colored differently. For example, royal artillery, blue; cavalry, black; infantry, red. On the march the ammunition for royal artillery should all be together, that for cavalry separate from the infantry; and non-commissioned officers of each branch should accompany their own special ammunition. As a rule, these columns should be a day's march in rear of main body.

Similar to that of the reserve ammunition column of a division at home, using the second line of wagons in place of the general service wagons, and attaching the spare gun-carriages; bullock draught being substituted for horse, the detail of officers, non-commissioned officers, and men being altered accordingly.

The ammunition column following an army in the field should be under special transport officers, the officer in charge of the whole being with the head-quarters, and taking his orders direct.

The second line royal horse artillery and royal artillery wagons should be with the leading ammunition column. This should be kept sufficiently near to the main body to be able to fill up ammunition in 24 hours.

There should be some arrangement made so as to enable the officer commanding the batteries in getting this second line of wagons up at once by sending for them if required.

A detached battery should have its second line of wagons with it.

In parts of India where there are railways the principal reserve of ammunition might be kept ready on the line of rail to be delivered at the point nearest to the army. In this case a small second ammunition column would only be necessary, of the same size as the first, to move up and take its place when required. The first column going back to the main reserve to replenish. Ammunition columns for the plains might consist of wagons drawn by bullocks for artillery, and of wagons,

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Colonel H. Storer, Commanding Royal Artillery, Thayetungo.

Major H. C. Lewis, Commanding 1 Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

carts, and pack camels for the infantry, with a certain number of pack mules that could bring up ammunition to a regiment in action.

Major T. M. Havelrigg, Commanding E-Srd, Royal Artillery.

In the plains,—

First reserve might be carried in limbers, or covered two-wheel carts drawn by horses, which and drivers would, I suppose, have to be taken from batteries, as is always done in England.

Second reserve on camels.

In hilly countries—

First and second reserves on camels.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

Considering it improbable in case of local disturbances that we should be opposed by anything except the most inefficient artillery, it appears to me that there are an unnecessary number of field-guns in India which would prove a source of weakness rather than strength, as there are not, in my opinion, sufficient European troops to protect them. The reduction of a few batteries would furnish the material for the formation of ammunition columns.

I consider that all arms should be brigaded by brigades, staff and entire brigades being moved together in relief. Attached to each of these brigades should be brigade ammunition columns. The divisional (or head-quarters of) column should be at or near the arsenal whence it draws its supplies; and it should make the issues and forward by its own carriage the supplies to the brigade columns, who would issue to the regiments and batteries. The major, with quartermaster sergeant and conductor of stores, would be at head-quarters of division.

Captain and subaltern, with sub-conductor of stores, at head-quarters of brigades, or specially detached. The column must have a nucleus of transport and carriage of each kind suitable for the batteries of its particular district. It might also have a certain amount of reserved local carriage to be kept up by contract and a retaining-fee. See proposal on paper II.

Major C. F. Nairne, Royal Horse Artillery.

One ammunition column for each division of the army-corps, with such sub-division as during peace time would allow a part at each station, and on service each brigade or part of a brigade to have its own portion of the column.

The ammunition, both small-arm and artillery, should, I think, be organized for mule carriage. If wheel carriage should be adopted, two wheeled carts would be best; but I prefer mules.

Major P. Fitzgerald Gallwey, Royal Artillery.

First, it is necessary to lay down what the columns are required for. I would therefore suppose an *Indian* army-corps, division, or brigade to be as under:—

Army-corps—

3 Infantry divisions.

1 Cavalry brigade.

*60 Guns (of the nature required).

Division of infantry—

2 Brigades.

1 Regiment of infantry.†

1 " of cavalry.

2 or 3 batteries (of the nature required).

1 Company sappers.

Brigade—

3 Battalions or 3 regiments,

and if *detached* or mobilized by itself, one battery in addition of the nature required.

The corps troops would be—

4 Batteries of the nature required.

2 Companies sappers and miners.

For each division there should be an ammunition column; and I would propose, considering the nature of the enemy generally opposed to us in the East, and the enormous length of our trains, that the amount of ammunition *taken into the field* with each arm should be as under:—

Artillery	...	500	rounds a gun.
Infantry	...	400	" a rifle.
Cavalry and sappers	...	200	" "

* Because the total of the corps would not exceed 20,000 combatants, and considering the trains of Indian armies, this is quite large enough.

† I find that the divisional infantry regiment makes the divisions stronger than the localized army-corps which I have imagined for India can afford. I would therefore have only a divisional cavalry regiment, which is really more necessary. The number of battalions in a corps, therefore, would be 18, and not 21; this would reduce the trains somewhat.

The amount in possession of the troops and the regimental reserves to be as follows :—

		Horse and field.	Heavy.	Mountain.
Artillery ...	...	148	122	90
Infantry ...	... { Possession ...	...	70	100 (A)
	... { Regimental reserve	...	30	
Cavalry and sappers ...	... { Possession ...	...	20	
	... { Regimental reserve	...	<i>Nil.</i>	

The amount with the *divisional* ammunition columns to be—

		Horse and field.	Heavy.	Mountain.
Artillery ...	...	76	89	105
Infantry ...	...	50		(B)
Cavalry and sappers	...	40		

Following the European model, and also to lessen the length of our divisional columns, we should have a corps ammunition column which would be further behind, but yet always up with, the army. It should be divided into three sections (and kept together), one for each division or rather one-third of the army-corps. If one or two divisions only take the field, and no corps is formed (as in last campaign), the divisional columns must be increased by the amount carried by each section of the corps column.

The amount for each arm with this ammunition column will be per gun and rifle—

		Horse and field.	Heavy.	Mountain.
Artillery ...	...	76	89	105
Infantry ...	...	50		(C)
Cavalry and sappers	...	40		

Therefore the totals carried in (A), (B), (C) are—

		Horse and field.	Heavy.	Mountain.
Artillery ...	... { A	148	122	90
	... { B	76	89	105
	... { C	76	89	105
Total ...	...	300	300	300

This is ample to have near at hand. The balance of 200 rounds should be with the ordnance department at such *dépôt* or *dépôts* as may be selected. For the—

Infantry ...	... { A	100	regimental charge.
	... { B	50	divisional column.
	... { C	50	corps column.
Total ...	...	200	

Cavalry and sappers	... { A	20	regimental charge.
	... { B	40	divisional column.
	... { C	40	corps column.
Total ...	...	100	

The balances, *viz.*, 200 rounds and 100 rounds, to be at the ordnance *dépôts*. If there be only a division employed, or no corps formed, B and C will be the divisional reserves.

The above 300 rounds for artillery and 200 and 100 for infantry and cavalry, &c., will be in charge of the officers commanding royal artillery in divisions and army-corps, the balances in charge of the ordnance officers under the general officer commanding.

Next, as to carriage for the above reserves :—

(1) That for the regimental reserve of infantry (30 rounds a rifle) should be, as at present, mule carriage (or in certain countries coolies).

(2) That for the *divisional* reserves should be as under :—

9-pr. ammunition horses or bullocks.	...	{ The limbers of old pattern ammunition wagons of which numbers exist, and which are of light draught.
40-pr. do. do. ...	...
7-pr. do. do. ...	...	{ Two limbers per gun for 76 rounds. Ditto ditto nine per gun for 89 rounds. Mule carriage, as it must be prepared to follow the batteries anywhere. Seven mules per gun for 105 rounds.

S. A. ammunition ... { I think instead of making new carts, old artillery limbers could be easily altered to carry eight boxes=4,800 rounds Martini-Henry or 4,000 snider; perhaps ten—say six limbers a regiment.

Now, referring to the assumed strength of a corps for field service which I have given, and also assuming the following as the batteries required for some particular service (say an attack on Cabul), *viz.*—

1 Heavy	...	...	...	4 guns,
2 Horse	...	...	...	12 "
4 Field	...	...	...	24 "
5 Mountain	...	...	...	20 "
				—
				60

then I have calculated the carriage for each divisional column to be about 80 limbers with two horses or bullocks each, and say 10 per cent. spare = 176; also 47 mules for the mountain batteries, and say with spare 60.

I would take away spare gun-carriages from batteries, and allow one for every two batteries, which should be attached to the ammunition columns, except in mountain batteries, where they should be with the fighting line. Then there would be a forge wagon for the column and a small number of store wagons, say a total of 90 carriages and limbers and 200 horses or bullocks with 60 mules.

This column should be commanded by—

1 major	...	} with a proportion of non-commissioned officers and lascars; drivers to be Natives.
1 captain	...	
3 subalterns	...	

These officers could easily be found from volunteers from batteries not in the field, their numbers of course not being kept up in peace time separately from cadres.

The corps reserve column need not be so mobile; and in order to save the use of camels as much as possible and leave them for other purposes, as well as to utilize the second lines of wagons no longer with batteries, and such other old wagons as are in the country, I propose for this column the carriage should be—

(1) Royal artillery ammunition wagons with limbers having one large box capable of holding harness and materials for repairs and tools required by the batteries and regiments drawn by bullocks.

(2) Camels.

The amount of carriage required will be—

9-pr. ammunition	...	1 wagon per gun with 6 bullocks.
(wagon bodies only).		
40-pr. ammunition	...	23 camels per gun.
7-pr. "	...	3 "
Small-arm ammunition	{	15 camels per regiment of infantry.
	{	7 " " of cavalry.
	{	9 for 5 companies sappers.

And for a corps having artillery as supposed the total carriage to be—

36 wagons	...	12 per section.
550 camels	...	184 "

One major, one captain, three lieutenants for the above.

The whole of the foregoing columns would be under the officers commanding royal artillery in divisions and the corps. The carriage of the remaining portion in ordnance charge should be on camels under ordnance arrangements.

Having thus sketched how the columns should be organized, I propose, as stated above, that the means of equipping an army-corps should exist at Rawal Pindi and Ferozepur arsenals and a division at each of the arsenals, Bombay, Madras, *i.e.*, the limbers and wagons should be collected there and fitted to carry the ammunition and stores; also ammunition boxes for the mules and slings for the camels. No special boxes are required for the projectiles, but the cartridges would require them for camel carriage, as barrels are awkward and unsafe. Under the transport organization, I have roughly traced elsewhere the number of animals required for the columns should be handy to the arsenals or places of rendezvous of the divisions to where the ammunition would be sent.

I would add that the above system of carrying ammunition is the one obtaining in all modern armies, and I have only altered the English organization where necessary.

It must be remembered that the ammunition columns which accompany an army-corps as organized on the home system are under the officer commanding the royal artillery, and are quite distinct from the reserve in charge of the ordnance department.

It would be easy, I think, to draw up an efficient paper organization by which in time of war the spare gun-carriage and three ordnance carts or wagons with the reserve ammunition of each battery ordered on service might be brigaded together, so as to form an ammunition column.

A captain and subaltern of the royal artillery, a few European non-commissioned officers and steady men, and a Native establishment would be quite sufficient. I would suggest the same scale of reserve as carried by army-corps divisional reserves at home, namely, 76 rounds per gun, or 456 rounds for a battery of six guns.

One hundred rounds of 9-pr. R. M. L. ammunition, with due proportion of tubes and fuzes, packed in wooded boxes and metal-lined cases, weigh approximately 1,560 lbs., so that the total weight to be carried would amount to about 7,100 lbs., or 2,370 lbs. for each cart or wagon.

This is quite within the mark as regards load, since a general service wagon in divisional reserve at home drawn by six horses is loaded with 28½ cwt. of 9-pr. ammunition.

Major W. R. C. Brough, Royal Artillery.

Need ammunition columns differ much in India in their general organization from that laid down at home for service? Suitable light, strong carriages and horse draught (again utilizing the small but strong and cheap horse) with syce-drivers seem to afford the best means of transport for purely mountain warfare. Pack-animals would have to be used, and for external warfare in a mountainous country they should be attached to the columns: the draught animals themselves when the carriages were not required might be so used. Were the carriages so constructed as to allow of the ammunition-boxes, &c., being readily removed, they might often be used in camp for many transport duties. A battery with its first line of wagons, and a regiment with its own ammunition cart or pack-animals (which should be *always* with it), would in a surprise be fairly independent (in all Asiatic warfare at least), and be unlikely to expend their ammunition before it could be replaced. With the facilities now afforded by rail for transport, the retention of large ammunition columns or many animals during peace would be unnecessary. Carriages, drivers, and animals need not be scattered about the country as those of the second line wagons now are. The drivers, horses, &c., in such numbers as deemed necessary should be attached to the ordnance and reserve depôts near points of danger, where during peace their services could be made available for the many duties now performed by bullock train, &c., and whence ammunition columns of the required strength could be sent to join a force proceeding on service.

Captain W. Law, Commanding C-2nd, Royal Artillery.

One European officer with about eight European non-commissioned officers ought to be able to look after a train of 30 wagons with 100 drivers and 200 bullocks, which would form the first reserve for the artillery of a division. Besides the non-commissioned officers, there should be about ten privates for the care of the ammunition and to assist in maintaining order on the march and transferring the ammunition, &c.

Perhaps some of the garrison batteries might be usefully employed on this duty. As soon as all batteries in India are equipped with the same gun (9-pr. M. L. R.), the duties of the ammunition reserve will be very much easier.

I do not think that heavy batteries should form part of the general ammunition column, as these batteries would rather be reserved for siege purposes and have a train of their own.

Captain A. D. Anderson, Royal Artillery.

See answer to question 5.

Captain G. C. Bayley, 18-8th, Royal Artillery.

I am not prepared to answer this question in detail. The general principle of supply of ammunition in the field I take to be that the supply is threefold, *viz.* :—

- (a) In regimental charge, consisting of, in the case of cavalry and infantry, the ammunition in the men's pouches, and in regimental ammunition carts (as at home), or on regimental pack-animals. In the case of artillery the ammunition now carried in the limbers and first line of wagons.
- (b) Ammunition carried by ammunition columns, which columns should supply all branches of the service indifferently.

As the proportions of the different arms of the service will differ more or less with the nature of each war, so must the proportions of small-arm and field-gun ammunition carried with each ammunition column differ. Each column might roughly supply a brigade. Five or six different scales might be laid down, showing what an ammunition

column would have to carry to supply a brigade, according as it consisted of—

Regiments British cavalry.
 " Native
 " British infantry.
 " Native
 Batteries, artillery.

In fact, it should be settled what the second supply of each unit of the service (taking a regiment and battery as a unit) should be, so many rounds per gun and per man, and the ammunition column would be organized accordingly.

Thus at the outbreak of a war it would be necessary to state what each brigade will consist of. (Here would follow detail, not necessarily giving the number of the particular regiment or battery, merely so many of each.) The ammunition column to carry rounds per man, and rounds per gun. Though each brigade as it was mobilized would have an ammunition column provided for it, it should be clearly understood that the column might, if necessary, be taken away from that brigade, and attached to any other brigade, or be disposed of as the Commander-in-Chief or any general might think proper. It should also be allowed for a regiment or battery to get ammunition from the nearest column, whether belonging to its own brigade or not. In short, a brigade would only have the first claim on its own ammunition column, but by no means an exclusive one.

(c) The rest of the ammunition for a force in the field would be carried by any means available.

I consider any further sub-division of reserves of ammunition objectionable, as unnecessary and tending to produce complication. I need hardly say that the ammunition columns should be distinctly military bodies, liable to be sent under fire if need be, though such a necessity should rarely occur. I think they should be authorized to make issues to any corps, on the authority of the commanding officer of that corps alone, to save the delay of requiring indents to be "passed"—a process which involves delay, and so far as I can see does no earthly good. Similarly, every ordnance official should be authorized to supply any ammunition column (also any corp-) on indent signed by its commanding officer.

7. What should be the nature of the transport for artillery in the field in India, and the various countries in which Indian armies are usually called on to operate?

Brigadier-General C. G. Arlathnot,
 Inspector-General, Royal Artillery
 for India.

Colonel A. H. Murray, Deputy
 Adjutant-General, Royal Artillery
 in India.

This question, I conclude, refers to artillery ammunition and stores. In India wheel transport is the best for horse, field, and heavy artillery; mules for mountain artillery. Beyond the frontier transport should vary according to the nature of the country, from a coolie to an elephant.

I.—The transport for artillery in the field in India in the plains should be—

(a) Guns and ammunition wagons in artillery charge, horsed.

(b) Carts, camels, and elephants for baggage. As regards the former, I would urge the introduction of the Maltese two-wheeled cart as most useful, in substitution for the unwieldy bullock-cart of the country.

II.—Beyond the frontier, wherever practicable, guns to be horsed; ammunition to be carried, where the use of wheeled carriage is doubtful, in boxes on elephants, mules, camels, or ponies—mules in preference. Elephants, where it is practicable to feed them, should always accompany a battery proceeding on service in Afghanistan,—to be supplied with cradles for carrying, as also a few sets of harness to assist the guns and wagons in passing over bad and precipitous portions of the road, thus avoiding the necessity for taking the equipment to pieces, an operation at all times laborious and causing much delay. As in the present case with the Khyber Force, wheeled draught should be utilized as far as the road is practicable, and there the base be established for the onward carriage of all ammunition on pack-animals, the wheeled carriage going backwards and forwards. In fact, utilize wheeled carriage as long as possible, and when that becomes no longer advisable, take to animals.

Mountain guns carried on animals; ammunition, camp equipage, baggage, &c., the same.

I believe myself the new jointed guns now under trial will have an important role in future mountain warfare. The doubtful point in this gun is its shell power, i.e., the penetration of the shrapnel bullets, which may be somewhat small. Still this is a defect which may be corrected, and I look forward with confidence to its ultimate success and increased utilization.

If it succeeds, there is no reason why similarly constructed guns of far greater calibre may not be introduced for elephant carriage. This will do away with the cumbersome heavy batteries. Guns of great shell power will be transportable with comparative ease over mountain ranges. In fact, the success of these jointed guns may effect important alterations in one branch of our artillery.

III.—Beyond the sea, wheeled carriage where practicable.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

I hardly think you can improve much on the transport used at present with the various natures of artillery in this country without materially increasing the expense. There is no doubt that for general purposes, with field-guns of moderate calibre, the horse is the preferable animal.

Colonel H. Strover, Commanding Royal Artillery, Thayetmyo.

I have had no experience except with Australian horses with six in a team, two abreast, which is found the quickest and most handy. In some countries four horses abreast with double shafts might do well for 9-pounder guns, drivers, as with heavy artillery, riding the outside horses. Mules would be good in Burma, if they could stand the climate, for the mountain batteries. Bullocks, if large and well-trained, would most likely be best to be stationed in Burma with field artillery, on account of artillery horses being subject to paralysis. But I doubt if horses have had a thorough trial in Burma. Perhaps if oats, or even paddy, were substituted for Bengal gram, and the feed of grain curtailed in the rainy season, they would be more healthy: a portion of huan to be always given, unless when it appears to do harm. The veterinary surgeons expect no result from this treatment different to gram-feeding; but I know that some horses have kept well on oats, and others (Australian) on five pounds of gram, three pounds of paddy parboiled, given in three nearly equal meals with a little bran during the day. If artillery must be used in very difficult countries, where there are soft, muddy nullahs and swamps and no bridges, elephants would be best, as they could carry the guns; but elephants cannot be carried in river steamers. The 10-8th Brigade here, who have 7-pounder R. M. L. guns as their equipment, exercised with commissariat coolies as bearers; but they had no long marches.

Camels if possible; mules carry but little, are troublesome to load, and require much more looking after on the march.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

I am not sure that I understand the question aright if the mode of conveyance for baggage is referred to. I think camels much better than any other, speaking generally; but of course the carriage generally used in the district must be employed.

Brinjaree pack-bullocks are read of as having been very efficient in former days: why not now? They are abundant in many parts of India.

As regards the transport of guns in mountainous countries, it appears to me that the present system of keeping up elephants for horse artillery guns (at Peshawar, &c.) is a waste of money. The mountain batteries are thoroughly efficient; and for such work more so in my opinion than horse artillery can possibly be.

Were the services of the horse artillery for such work dispensed with, an increase in the number of mountain batteries would, however, be a necessary sequence.

If one were kept at Cherat (as a good exercising ground), a field (not the horse artillery one) battery might be taken away from Peshawar, and similar changes might doubtless be carried out elsewhere on the frontier.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

I feel sure that there is room for no novelty in the transport of artillery, even were there anything left untried. Horses, bullocks, elephants, camels, mules, and ponies are all pressed into the service in various ways and under different circumstances.

The breeding of transport animals in the country has for some years elicited attention and enquiry, and Government are in the possession of the views and experiences of the best practical authorities.

As regards bullocks, there is a question now of great importance to be settled for the future of this presidency and of the service generally, viz., the maintenance of the Amrut Mahal. Papers on the history of the establishment, and the discussion of the grounds of its existence, and the political and economical aspect of its continuance, are doubtless at the disposal of the Commission.

This establishment has been the source of supply of some of the most active and enduring bullocks in the country—animals on whose powers of marching have depended the execution of rapid movements, resulting in some of the most decisive actions in our conquest of the peninsula. Their services in the Burma campaigns and in the mutiny are matters of later military history.

A consideration of the history of our acquisition of this valuable establishment, and of our relinquishment of its management from 1800 to 1813, and again from 1840 to 1860, and its abandonment from 1860 to 1866, having resulted in each case in loss, and in the first and last in a resumption forced on us by the immenso expense of buying inferior cattle, will doubtless have weight, before a gratuitous consideration for a resuscitated Native State leads us to abandon one of the principal material advantages gained by the gallantry and intrepidity of the British army at the "glorious" capture of Seringapatam. A curtailment of grazing privileges will doubtless provoke experiments to find other suitable grazing grounds on the highlands of the presidency; but any complete abandonment of our treaty rights at once would, it cannot be doubted, lead to increased army expenses on this head, and make any substitution of bullocks for horses impossible in this presidency for a long time, as the up-keep of the breed under Native management in a foreign State is not likely to be better than in the early years of the century.

The outturn of trained bullocks may seem hardly commensurate with the size of the establishment, which may be roughly described as 10,000 head feeding over 340 square miles of country; but when it is recollected that half of the herds are cows, heifers, and female calves, and of the other half there will be many under-sized, ill-shapen, and weakly animals unfit for Government purposes, together with a certain number of bulls and *peshroes* or herd leaders; and further, that all bullocks passed through the training dépôt to the military department are 5 off, it will appear that the result in superior animals fit for draught in ordnance carriages is not so disproportionate.

It is probable that any special army demand could be complied with by the supply for general transport and as forage bullocks of many of the inferior animals now sold annually from not being of sufficient class for ordnance draught purposes.

The breed is undoubtedly of excellent quality and must be preserved anyhow; but whether such a large head of cattle could be fed on more contracted grazing grounds is the question. The ability to roam over extensive tracts of country is undoubtedly favorable to the hardness of hoof and leg power for which the breed is so famous, and it may be feared that these qualities will be imperilled by breeding under different circumstances. Time might be granted for the experiment before any rights are relinquished.

I take this to mean for guns and their equipment; and understanding it thus, I have no hesitation in declaring in favor of the mule mountain batteries. They can go over everywhere; horse and field artillery cannot. For rapid marches along good roads, of course, horse artillery is better adapted than field. They can both operate over very tolerably rough ground; but the mule batteries can be relied on to travel well almost anywhere. They want a better gun—one with a flatter trajectory. I

should say gatlings on mules would be very serviceable.* Wheels over cultivated, irrigated, or very rough and rocky country cannot hold their own with the mulo equipment. Of course, it would be different had we organized artillery like our own to meet in the plains, and where the marching might probably be from place to place over good roads.

Against a foe such as Russia all the horse and field artillery available would be an absolute necessity; but against Asiatics only in a minor degree, the mountain batteries being used in much larger proportion than at present.

It would be better that all artillery transport should be wagons drawn by horses with Native drivers for efficiency; but this would increase the expense.

For campaigns in the hills, a special ammunition train should be kept up of ponies or mules with light hill carts for royal horse artillery and field batteries, and mules with pack-saddles for mountain batteries and infantry.

I believe that horse is the best transport animal for artillery in the field in India, and, with the assistance of a few elephants (to get guns and carriages over serious obstacles), I do not think it can be improved upon anywhere. (I think small pontoons should be made to be carried on the elephants, gun and carriage cradles, which could be used to float the guns and carriages over rivers which could not be bridged, and where the horses would have to swim.)

Some two-wheeled ammunition wagons and carts should be made. Artillery four-wheeled wagons are ill-adapted for really bad hilly country. This is no new suggestion, so I need not dilate upon its special advantages, which are well known.

Major H. C. Lewes, Commanding
I Battery 1st Brigade, Royal Artillery.

Major W. W. Mordaunt, Commanding
E A, Royal Horse Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse Artillery.

Mountain batteries, with mule carriage, are invaluable, and with a better gun (which they are soon sure to have) they will become still more efficient.

As at present for artillery in the field in India.

Major E. T. Hume, Commanding O Battery O Brigade, Royal Horse Artillery.

Major C. F. Nairne, Royal Horse Artillery.

Major P. Fitzgerald Gallwey, Royal Artillery.

Camels in India; mules in surrounding countries.

I presume this question alludes to the transport of ammunition, as the general transport for artillery does not differ from that of any other arm.

For Afghanistan I think a certain number (*vide* answer to last question) of the ordinary royal artillery ammunition wagons, supplemented by camels and mules, would be best; probably the same for Persia. Of course, the more open the country, the more we can use wheeled carriage, and there are a great many ammunition wagons in India available for trains; but for anything like the last campaign, camels must be our mainstay, as too many wagons would block our single roads, and mules don't carry enough. I expect that for Assam, Burma, or even China, coolie carriage (or the latter supplemented by ponies) would be largely employed.

I do not think it would be advisable to lay down any hard-and-fast rules as to the nature of transport required for artillery.

Every thing would depend upon the character and resources of the country which formed the theatre of war.

Major W. H. Noble, Royal Artillery.

Major W. R. C. Brough, Royal Artillery.

I cannot think we can improve on the horse as the means of transport for field artillery for either internal or external warfare. For the transport of heavy guns, elephants are partly used. I know nothing of the comparative cost of elephant and horse transport; but for Indian service no better animal than the elephant can perhaps be found. The climate suits him, food such as he requires is almost everywhere procurable, and elephants to replace casualties in a battery would probably be available with the force. Will elephants, however, endure the cold, hardships, and perhaps scarcity of suitable food, they are likely to be exposed to in external warfare; and would it not be difficult to keep up a reserve of these animals? I think these points have been or would be found to tell against their employment beyond our present frontier, and that perhaps, liable to contact with an enemy possessing guns equal to our own, elephants would offer too large and easily-hit a mark. It would also seem desirable that the means of transport of all artillery for employment in this class of warfare should be as far as possible alike, so as to admit of one battery at once helping another out of difficulties and necessitating but one class of animal in reserve. I would therefore urge the formation of two (or more if deemed necessary) horsed heavy batteries of four guns (or better perhaps rifled howitzers) each for such service.

No extra cost need thereby be involved; for present field batteries might be transformed into these heavy batteries, with I believe no loss, on the contrary perhaps increase, of valuable artillery power. Horses stout, if somewhat small, and hardy ponies are, I believe, to be found beyond the frontier, and by capture or perhaps purchase. There would then be a chance of obtaining means of transport for horse, field, heavy, and mountain batteries. For transport of guns, &c., of mountain batteries, I cannot fancy anything better than their present good mules.

If we prevent the rulers of Native States in India from indulging in modern fortifications, armour-plates, and heavy rifled guns, I see no necessity for the employment of siege artillery in or near India for any thing but coast defence; and its transport can be effected by rail or sea. Heavy batteries are even now armed with a siege gun (the 40-pounder), quite capable of destroying the fortifications (other than our own) now existing or likely to exist for many a long year to come in any place we know of in or near India.

Believing, as I do, that regimental transport to be efficient should be in regimental charge; that two ponies would thrive on less than the food we had privately to give one camel in Afghanistan, *viz.*, three to four seers of barley and ten seers bhoosa (the Government rate being two seers barley and six seers bhoosa daily, on which they died in hundreds), and that they will work under privations and over countries that kill camels; that the battery grass, second line of ammunition, and tent transport should be ponies (or small mules if procurable at the price)—I recommend an expansion of the pony scheme, by the addition of ponies with a man to every three, to the extent required of purely battery requirements, such as black bags, bedding, spare stores, &c., or any extra rations the troops may be required to take charge of.

Captain A. D. Anderson, Royal Horse Artillery.

Batteries having their existing establishments and organization for charge of horse and pony lines would be in a position, with but little strain, to expand the same, and efficiently supervise transport for their own wants in every point but food and forage. The enormous loss of transport animals on the Kandahar line was, I believe, mainly owing to their being no one's charge in particular, and a class of animal regarding whose treatment we knew nothing, and might have been avoided. Officers should be directed to provide for their own carriage in ponies or mules at a regulated scale under their own charge, and foraged as are chargers.

Lieutenant E. C. Wace, R.A.,
No. 4 (Hazara) Mountain Battery.

The nature of the transport should be regulated by the nature of arm to be supplied with ammunition and its present equipment. Thus, in the case of horse and field artillery, the ammunition wagons should be horsed, and so equipped as to admit of their immediate exchange with the empty wagons on the field; and in the case of mountain batteries, the ammunition boxes should be carried on mules in exactly the same way as they are in the batteries, so that the reserve, if necessary, may be brought up to the battery, wherever it may be, on the hill-side or otherwise.

8. Have you any practical suggestions to make relative to the supply of artillery or small-arm ammunition in the field, which are the result of experience during the recent field operations?

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

None which are the result of experience during the recent field operations, as I did not see a round fired.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

I would refer to my reply to query 6 as resulting, not in this case from personal experience, but from a study of the subject, aided by the advice and information afforded by those competent to form a good opinion.

There was much correspondence in my office during the whole of the last campaign concerning the vexed question of carriage of ammunition of the second line wagons; and I feel convinced extra assistance is required, and that the formation of ammunition columns, either by batteries or divisions of batteries, will be the best mode of meeting the difficulty. But I would deprecate there being in any one column two classes of ammunition: each class should be kept separate. Thus a mountain battery would have, say, one conductor of stores and two or three non-commissioned officers with a few gunners for its ammunition; a heavy battery the same; the field artillery would be formed into one column so long as the ammunition was the same under an officer, and so on; all being kept separate from the other, but the whole formed as above under the supervision of a superior officer, who would be responsible to the officer commanding royal artillery of the force.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

I have not, except to reduce its aimless expenditure, with which view I would discourage the great rapidity of fire, now so much admired, and endeavour to persuade the soldier never to pull a trigger without covering an object, pointing out to him not only the waste, but the personal risk he incurs by a too rapid or careless expenditure of his ammunition.

Major T. M. Hazellrigg, Commanding E-3rd, Royal Artillery.

Yes.—Carry artillery reserve on camels, and small-arm reserve on mules; put it under one, two, or three officers, according to length of train; keep it in front of all baggage, supplies, tents, &c.

On the night of 21st November, ammunition for artillery and infantry carried by camels and mules left Jumrood after dark and arrived at Shargai before day-light, though road was partially blocked. Horses had failed to get up more than one wagon on 21st.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

My reply to (5) and (6) is a reply to this question. I cannot possibly here enter upon details, which would require very much time and consideration; but the system of demand and supply should be simplified. The signature of the officer commanding a regiment or battery should be sufficient authority for the issue, and he should have to account for the expenditure. It is absurd to imagine a commanding officer would indent for ammunition which was not absolutely necessary, as he would have no means of carrying it.

Major C. F. Nairne, Royal Horse Artillery.

None, save to deprecate the idea that the first line of wagons should be separated from a battery during action, on the plea that they lengthened the column too much, as was ordered in I-C, Royal Horse Artillery, during the attack on Ali Musjid.

I also think that ammunition columns should be organized.

Major P. Fitzgerald Gallwey,
Royal Artillery.

I particularly remarked the inconvenience of attaching too much ammunition to regiments in the latter part of the campaign. The regiments of the 1st Division, Peshawar Field Force, had 300 rounds a rifle in regimental charge. Commanding officers have told me that they found the large number of mules added to their train very inconvenient.

Officers commanding batteries, too, would rather have been rid of their second line wagons: these never, of course, accompany batteries in a European campaign.

The result of my experience is that the regimental charge should not be increased, but only kept up to its proper amount by the ammunition columns.

Every company ought to have a common-turnscrew to undo the nut which secures the lids of small-arm ammunition boxes. I have heard that this was wanting on one or two occasions when pouches had to be replenished.*

See answer to question 5.

See answer to question 10.

Captain A. D. Anderson, Royal Artillery.

Captain G. C. Bayley, 13-8th, Royal Artillery.

Lieutenant E. C. Wace, R.A., No. 4 (Hazara) Mountain Battery.

Owing to the difficulties of the country and the feed of horses, it was contemplated at one time during the recent operations to transport the reserve ammunition of all branches of the artillery on camels. If this had been done, I am of opinion that great confusion would necessarily have arisen in the distribution of the ammunition on the field, should there have been any occasion to do so, to say nothing of great delay.

The small-arm ammunition boxes should be properly fitted to hook on the Government saddle, and be secured with a strap on either side to the saddle, passing lengthways over the box, to prevent too much play of the boxes on the hooks of the saddle.

In the recent field operations, the small-arm ammunition boxes were carried on hired mules, laden with the Native saddle (*pitan*), and secured some with ropes and some in salectahs.

In this way, it was impossible for the load to ride evenly; and in going over any uneven ground, the load invariably tended to slip backwards or forwards, and it would have been very difficult, with such carriage, to supply infantry in hilly and steep ground with ammunition.

9. Can you name any stations at which field batteries may be advantageously substituted for horse artillery?

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

I cannot venture to make any suggestions until it is known what disposition of troops it will be necessary to make on our new frontier.

I see but little use in having a horse artillery battery at Meean Meer, and it could be more advantageously located at Rawal Pindi or Lucknow, the field battery at either of those stations taking its place.

I would not reduce the number of horse artillery guns in India. There are in the country 23,606 sabres, *i.e.*, 9 British and 43 Native regiments exclusive of the body-guards of the Governor General and Governors of Madras and Bombay. The Native regiments are increased in war time by 96 men per regiment, which will give an average total of 27,734 sabres, or a percentage of about three guns to 1,000 men.

From the remarks in Sir Garnet Wolseley's "Soldiers' Pocket-Book" (3rd edition, page 122) regarding the number of guns per 1,000 men, it is clear that the proportion in India of horse artillery guns to cavalry is only the minimum of that recognized with European armies, *vis.*, from 3 to 3.75; but as it depends on the quality of the troops (and in India the greater portion of the cavalry is Native, and therefore requires a full proportion of guns) and also on the country (and in India the country is, as a rule, favorable to its use), it is very apparent that the number of horse artillery guns as viewed from the above data is barely sufficient.

Further, it must be remembered that, as already stated, the cavalry (Native) is increased for service by 96 sabres per regiment, whereas the number of guns is not increased. The percentage should, I submit, be therefore taken, as I have done, on the war strength of cavalry.

I would here add that one battery of horse artillery has already been reduced in this presidency.

At the present moment we have one battery with the Kandahar Force; one with the Kurram Force; one in reserve for this force at

* At home all small-arm ammunition boxes, before issue from the ordnance department, have their lids unscrewed; but I think this would be objectionable in this country.

Rawal Pindi; one about to enter the Khyber with the advance; and one in reserve, or one-half of the number of batteries of this branch in Bengal actually in or about to take the field.

There remains therefore in the whole of India nine batteries to reinforce, if necessary, batteries already on service; to assist in guarding the immense extent of India; to take part in any complications which may at any moment arise beyond the sea, internally, or on the north-east frontier or elsewhere, and which cannot be considered one gun too many. On the contrary, I believe it to be barely sufficient, more especially as the horse artillery is an arm which it is impossible to bring to a state of efficiency at short notice.

I cannot. The plains of Hindustan afford scope for the display of the extreme usefulness of horse artillery; but I consider them out of place in mountainous countries. If the nature of the country is such as not to admit of the use of the 9-pounder gun of 8 cwt., let field batteries be equipped with a lighter 9-pounder of 6 cwt. for such service.

I cannot.

There are no stations in the Madras presidency where horse artillery are quartered. The two batteries on the strength of the Madras army are both in foreign States,—one at Bangalore and one at Secunderabad. At each place they are associated with British cavalry and are a necessary part of the complete force, which for political reasons it is desirable to maintain there. Probably neither of the two batteries in the Bombay presidency can be spared for similar reasons; but perhaps some of the batteries detached from Lucknow north-westwards to Peshawar might be replaced by field batteries armed with light guns, and habitually carrying gunners on the axle-tree boxes with one or more spare riders, or with men on the off horses; in fact organized on a modification of the old horse artillery system.

My experience in India having been confined to Sind, where there is no horse artillery, and Kirkee, where there is only one battery with two field batteries, I am unable to offer an opinion.

Yes, Morar and Meean Meer, because horse artillery should never be stationed where there is no European cavalry.

I consider that it is advantageous to both arms of the service for horse artillery to be associated and worked with cavalry; and therefore at stations where there are no European cavalry, I would recommend that the royal horse artillery be replaced by field batteries.

Peshawar.

As long as field batteries are only armed with the same gun as horse artillery and are so much worse horsed, I consider a field battery can never be advantageously substituted for a horse artillery battery; for it is evident, under existing circumstances, a horse artillery battery has more traction-power than a field battery, and the only disadvantage is an additional number of horses to feed and keep.

I do not quite understand the nature of this question. If it is another way of asking generally whether field batteries could be substituted for horse artillery, I should say "no." First, because I believe horse artillery are already rather under than over the usual percentage of that arm to cavalry; second, horse artillery is a branch requiring long training and very superior horses, and cannot be raised in a hurry if required; third, field batteries, as at present constituted, are only inferior horse artillery, less mobile, but with same power of gun. I should like fewer field batteries, more mountain batteries and the same horse artillery to suit Indian requirements.

Yes—

Peshawar.
Campbellpore.
Meean Meer.

Morar.
Bangalore.
Kirkee.

I cannot well explain how I propose to redistribute batteries without referring to the map which I have already alluded to; but at the stations above mentioned I have placed *field* batteries as under:—

Peshawar	...	...	1*
Campbellpore	...	...	2†

* Peshawar I look upon as totally unsuited to horse artillery; there is no proper ground for them to drill on, and they are not required. I think holding the frontier as we now do, we should reduce the European garrison of Peshawar as far as is safe. We can do so by having reserves close at hand. Hence I have only one field battery at Peshawar, and have two horse at Pindi and two field at Campbellpore.

† Some extra barrack accommodation is required at Campbellpore for two field batteries, but there are ample materials at Lawrencepore, 8 miles off.

Colonel C. H. O. Evans, Commanding Royal Artillery, Meerut Division.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

Major H. C. Lewis, Commanding I Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding G Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

Major T. M. Hazelrigg, Royal Artillery.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

Major C. F. Nairne, Royal Horse Artillery.

Major P. Fitzgerald Galloway, Royal Artillery.

Meean Meer	...	...	2
Morar	...	...	2 (and one heavy battery).
Bangalore	...	...	2
Kirkee	...	...	2

The horse artillery I have placed as under at what are the principal cavalry stations:—

Rawal Pindi	...	...	2
Sialkot	2*
Umballa	1†
Meerut	3
Lucknow	2
Secunderabad	2 (and 2 field batteries).

Mhow	2
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Major W. H. Noble, Royal Artillery.

Major W. R. C. Brough, Royal Artillery.

Have not had sufficient experience to justify me in replying to this question.

The batteries of horse artillery at Meean Meer and Campbellpore might be removed; but at Meean Meer no battery need be substituted, and a horsed heavy battery at Campbellpore would be available for either Khyber or Kuram. I do not mean that two batteries of horse artillery less should be stationed in India, but that these batteries might well be moved to stations at which they would be likely to be fully utilized in manœuvring with other troops instead of being isolated. Horse artillery, from its great mobility and power in measure of defending its own guns on the move, is the most valuable artillery for internal warfare in India; next to it comes field artillery, and lastly heavy, for warfare across the frontier. I would feel inclined to place them in exactly the opposite order, and to give mountain batteries the precedence of all.

Major C. Wilson, Royal Artillery.

Peshawar. The surrounding country is unsuited for very rapid movement, being much broken.

Captain G. C. Bayley, 13-8th, Royal Artillery.

Captain A. D. Anderson, Royal Artillery.

See answer to question 7.

The deputy adjutant-general, royal artillery, can give the best and fullest information on this point.

10. What reductions do you consider feasible in the establishment of followers with a battery in peace or war?

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

Grass-cutters should be abolished in all, and grass supplied under all circumstances by the commissariat department. On service the number of syces can be reduced, as in the late operations in Afghanistan. In peace time a slight reduction might be made in the establishment of syces of a field battery, but none in that of a battery of horse artillery. It would no doubt be very desirable if syces could be dispensed with altogether; but until there is a radical change in the climate this cannot be done. A large percentage of the Europeans must yearly go to the hills; and of those left in the plains, many will be quite unequal to much physical labor. There are frequently but few left to look after the horses. The syces then must do nearly all the work. To abolish them would necessitate a large increase to the European establishments, which, as one European represents the cost of about 15 syces, would be a most expensive arrangement.

See reply to question 15, paper A.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Considering the nature of the climate at certain seasons of the year throughout the whole country, it does not appear to me that any reduction of these followers is feasible, unless it may be that if the commissariat supplied hay or grass, as in other armies, the grass-cutters could be dispensed with.

Colonel A. C. Johnson, Royal Horse Artillery.

I do not consider any reductions feasible in peace time. In war I should reduce them to as low a scale as possible with due regard to the health and condition of men and horses. It would be difficult to lay down numbers, as if war was being carried on during the summer months, the number of followers required would be greatly in excess of those necessary in a winter campaign. The number of syces allowed in the campaign in South Afghanistan were insufficient.

I do not think that any reduction of followers with a battery of horse or field artillery is feasible, in peace time. Any reduction would

* Sialkot ought to be a cavalry station with two horse batteries. The regiment of infantry (British) now there is divided, some of it being in another division.

† At Umballa I place one horse and one field battery, as the number allows of it.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

of course throw more work on the Europeans, who already have quite enough to do in a climate like India generally. During war the grass-cutters, who in Southern India are women, might be dispensed with, my experience in the mutinies leading me to believe they are useless and cumbersome. Dhobies also could be dispensed with, as they are an unsuitable class of men for the rough work of a campaign.

Cooks, blisities, and sweepers are men better fitted for the life then required.

I append to this Captain Brough's, Royal Horse Artillery, experiences on this subject in the late war in Afghanistan:—

"In the recent campaign in Afghanistan the complement of syces allowed was ten per cent. on the peace strength of horses per battery with one additional sycce per horse of the number to increase to war strength, making a total of 31 syces.

"By the work done during the campaign, it was proved, therefore, that it was possible to do without the peace complement of these followers; but I noted at the time that it appeared to me very questionable if it would not have been better to have taken no syces whatever, and, in their stead, to have taken an equal number of drivers (Europeans). The latter would have been a great augmentation to the *effective* strength of the battery.

"Syces can, doubtless, be trusted with night duty in the stables in peace time; but I do not think they can be depended on for such duty on service,* and even picked men succumbed to the effects of cold and exposure, and became all but useless.

"I also noted the following calculation at the time: 'the rations, too, carried for natives are all but as heavy as for Europeans':—

<i>Europeans.</i>		<i>Natives.</i>	
1½ lbs. of bread.		1 seer of atta, wheat or	
1 lb. of vegetables.		rice	... = 2 lbs.
½ lb. of tea, sugar, salt, &c.		Ghee, salt, dhall, &c., about	½ lb.
Total 2½ lbs.		Total	2½ lbs.

Wood, bought. Meat, driven.

"It appeared to me, too, very doubtful if the Native artificers were of much use in the campaign, as they did not appear to have the stamina to withstand the hardships, and do their work, and as they took time to cook their food.

"I would prefer having the number of European artificers increased and the Native artificers abolished for such a campaign.

"My battery was quartered in Sind before the campaign. There batteries are supplied with fodder by the commissariat department, and have no grass-cutters. On being ordered on service, we were supplied with grass-cutters, though, from the accounts of the country to be passed through, it appeared certain grass would not be found along the route.

"As it turned out, the grass-cutters did next to no work as such, and they were most of them sent back from Kandahar; and another large batch of them was sent back after our advance on Girishik.

"I cannot see how, if a large army is on the move, it can be supplied with fodder by grass-cutters. From the very nature of this and neighbouring countries, it seems impossible to feed a large number of animals with the grass just found along the route.

"Even in peace time, there are many routes where grass is difficult to procure. Any one who has marched along the grand trunk road, from Lahore to Peshawar, knows of the difficulty of getting grass along it by simply cutting what can be found.

"I think, therefore, that grass-cutters might be disestablished altogether, and that the commissariat should supply fodder, both in peace and war.

"What I have said about syces and Native artificers applies to a campaign in a cold climate. Whether they could be dispensed with in a campaign in the plains of India during the hot season, I cannot say, but should judge that they could not.

"BANGALORE;
2nd September 1879.

J. BROUGH, Capt., R. H. A."

Lieutenant-Colonel J. Ketchen,
Royal Artillery.

I think that in some stations some of the syces could be dispensed with. I refer to stations where the horse lines are near the harness-rooms and barracks. (In Peshawar, for instance, it is a regular "fatigue" to carry the harness and saddlery between the horse lines and the harness-rooms.)

* Under supervision, of course, in both cases.

Where the barns-rooms are close to the horse lines, I think 18 syces might be taken from the peace establishment of a battery of horse artillery.

No other reduction is feasible.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

I doubt any sensible reductions being feasible with due regard to the health of the British soldier in peace except at hill stations, or in war except in temperate climates.

The British soldier might be made to do a great deal more for himself in the colder season of the year, which varies from *nil* at Trichinopoly to some four months duration in the Punjab; but the Native establishments cannot be dispersed and brought together spasmodically to suit the climate with the pulling of punkhas.

As regards syces, possibly the establishment might be reduced in peace and war, if the orders as to the non-employment of them by the soldiers in the capacity of cleaners of appointments and harness, and as to the exclusion of them from getting horses ready for parade and ever coming near a parade, were more rigorously carried out, and they were confined to the duties of helping to clean off and spare horses (especially their legs, so as to keep the men from stooping heads down), bringing washing water, cleaning stalls, and taking horses to water in the middle of the day. As to watering before evening stables, it has to be done at home, and the men, therefore, may well have to do it here, turning out as soon as the sun is getting low; and then the evening stable hour must count from the return of the horses from water.

There is, I think, a limit to the non-employment of British soldiers whenever the sun shines. If he is never to go out in the sun, he will be a long time getting acclimatized for field service. The fear of the sun leads, as a general rule, I believe throughout India, to unnecessarily and irksomely early parades, and the breaking of the night's rest to officers and men. The desire to escape the morning sun is doubtless due to the weariness induced by empty stomachs; but, I believe, if early coffee with something to eat were insisted on before going out, there would not be the same anxiety for getting back to barracks.

As to grass-cutters, there is the difficult question of right to cut grass in the fields against the will of the ryots. It is only by time-honored custom that the practice is carried on, and therefore the less said about it the better, as it is undesirable to raise the question of right and run the risk of adverse decisions in civil courts. It will of course depend on the circumstances of different stations, whether the grass-cutters forage on private property, or whether there is plenty of Government waste for their operations. Anyhow, unless a good extent of grass land is assigned to each mounted corps, and the cultivation is scientifically and assiduously pursued by the commissariat department or the corps, a large following of grass-cutters is a necessity.

Cooks, like syces, are a necessary evil. Soldiers could not safely be left to cook for themselves in barracks, even were the cook-houses improved, unless perhaps at hill stations; and they certainly could not cook in camp, unless in (what is exceptional) a cool cloudy climate. This class, however, are not all public followers, and their presence within the limits of the country is not usually inconvenient, but they are a troublesome adjunct on field service.

I do not think the Native artificers of mounted corps can be reduced. In the farrier's shop there are often too few, as British soldiers cannot stand much forage work, or the exertion of shoeing many horses. The work may induce thirst, which adds to the evil; but I believe it will be found that, as a class, farriers and shoeing-smiths are more in hospitals than their comrades, and therefore any over-working of them is bad economy for the State.

In war, at times the grass-cutters might be done away with. In the Afghanistan expedition they were of very little use. The forage was chiefly stored or bought from the inhabitants, and mostly it would have been useless, if not dangerous, for our men to have gone from camp for the purposes of grass-cutting.

In war, half the number of lascars would be sufficient.

In a horse battery I consider none are feasible, the establishment being already as low as is compatible with efficiency.

I do not know of any reductions that could be made in the establishment of followers of a horse artillery battery. It is quite true that when there are the proper number of Europeans at work in the shops, some of the Native artificers might be dispensed with; but they are all required during the hot weather and in cases of emergency.

None!

Major H. C. Lewes, Commanding I Battery 1st Brigade, Royal Artillery.

Major E. T. Huwe, Commanding C Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

Major T. M. Havelrigg, Commanding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

I can claim no knowledge of this matter as regards anything except the Native establishment of a battery of horse artillery.

I do not consider any reduction possible in the Natives of a horse artillery battery, except under an entire change of organization; and I am not off-hand prepared to say that the change I propose in Nos. 2 and 3 would actually cause any real reduction amongst the Natives.

As long as the Natives are allowed to be like servants to the European soldier, the latter will do little more than what he is obliged to do.

I should either separate the two entirely, and make the European soldiers work quite alone and the Natives quite alone under non-commissioned officers, or else positively make the Natives the servant of the soldier—something like the irregular cavalry. I think this would reduce the number of Natives in a battery; but it has obvious disadvantages also.

Major C. F. Nairne, Royal Horse
Artillery.

The day for grass-cutters has gone by; the race is dying out. Men cannot be got to serve for the pay; and owing to increasing cultivation, and that zemindars have found out that their grass is saleable, grass-cutters can no longer provide either proper quantity or quality of grass. This is a question which requires greater length to write about, so I will leave it. Abolish grass-cutters, or reduce them to the very small number requisite to bring in a small amount of green food for the battery, and feed with hay. Grass-cutters are almost useless on service and on the line of march.

Abolish tent lascars; at present allowed one to each tent on line of march. Their duty can be, and is, performed by the men.

I do not think any other reduction advisable, because in the artillery the men already have enough work to keep them in health; and any increase to it has been proved to cause an increase to the sick list; therefore, as a matter of true economy, the followers who save labor to the English troops should be kept up. Throw more work on the Englishman, and it must frequently happen that he will not come fresh into action. Preserve his vigor as much as possible. The climate is already too much against it.

Major P. Fitzgerald Galloway,
Royal Artillery.

Horse and field.—I would reduce syces 50 per cent.; they are to a certain extent an anachronism belonging to a time when the British soldier did nothing for himself.

I would reduce the grass-cutters as under:—

<i>Horse artillery.</i>	<i>Field battery.</i>
From 178 to 60 single, or 30 jorawallahs,	From 110 to 40 single, or 20 jorawallahs,

in peace time. The commissariat should obtain grass by contract and stack it. The reduced establishment of grass-cutters to be employed to supplement the contractors and for another purpose, viz., that it is not quite clear that in all campaigns the commissariat could purchase or get grass daily. Hence it would be well to have a partial supply of cutters in each battery: the full number could be filled up by transfers if necessary for service.

But for peace time I am convinced the present system must soon cease. Land is becoming more valuable daily, and the zemindars more litigious. It is even now very difficult in places to obtain grass in this way without trouble; in fact, most of it is *stolen*.

Heavy batteries.—I have already stated the reductions that could be made if 4 gun batteries were adopted.

Mountain batteries.—The same for mountain: in addition, I think it a most urgent necessity that cooks and all Native servants in barracks should be strictly prohibited in mountain batteries. I consider it a most humiliating spectacle to see British soldiers in the hills, in a finer climate than that of their own country, unable to cook their own food, or clean their own boots. There is no earthly reason why they should not do so, and the present system is extremely pernicious. I observed in the last campaign the utter incapability of the British soldier to do anything for himself that a Native could do for him.

In all batteries I would propose a reduction of lascars by 50 per cent. They are good men, but do work which ought to be done by the gunners. I would find employment for them in the ammunition columns and siege trains in arsenals, if it be thought hard to discharge them.

See answer to question 9.

Major W. H. Noble, Royal Artillery.

Major W. R. C. Brough, Royal Artillery.

In horse and field artillery I have already suggested the reduction during peace of 20 horses each in the mass of the batteries in India. This would allow of the syces being cut down in number by ten and grass-cutters by twenty. Single camp equipage I would only have in possession of batteries at some distance from, and not in direct communication by rail with, the depôts, thus allowing tent lascars in almost all

batteries to be dispensed with. Store lascars I would reduce to a hundred and six, but I would strictly forbid the employment of these men or any battery follower on duties out of their own battery. Such numbers of the lascars are now constantly employed as orderlies out of the battery, that not one is left with it. Eight bullock drivers for the 17 bullocks still necessary for draught would suffice instead of the present *sirdar* and 33 (these 17 bullocks should always be left with their battery, where their efficiency and condition would be looked to, but their services might, as now, be made full use of in cantonments). In the Native artificers I think no reduction possible; and bhisties and puckalis could only temporarily be reduced in number at stations where water is actually laid on in barracks and wash-houses.

For inland service I cannot believe any reductions, save of the bullock drivers not required, possible. Well capable in a good climate of hard work, in the Punjab during the winter months for instance, Europeans, if subjected to constant exposure by day in the hot weather, must break down, if not die; and reduction of followers, which would necessitate such exposure, must be avoided. For external warfare, it seems impossible to lay down one rule for all circumstances, and that the climate of the countries in which the troops would be called on to act must in each case be taken into consideration. Experience in Afghanistan and its climate during the summer should enable officers of the Kandahar Force to suggest the possibility of, and amount of, reduction calculated to ensure efficiency during war beyond our north-west frontier. I would suggest that in future followers not accompanying their batteries should be allowed a small retaining-fee—say two rupees a month—on condition of their awaiting at some specified station the return of their batteries. Wars now seldom in any part of the world run a long course; and I daresay two rupees a month would have kept many of the so-badly-wanted syces awaiting the return of their batteries this summer.

The lascars attached to a battery of any description might be dispensed with. A Native farrier should be added to the heavy batteries, and a percentage of drivers (Native) to allow for casualties by sickness or otherwise.

I do not consider any reduction in time of peace possible. I have no war experience but from that gained in the Malta expedition. I would suggest leaving behind a large proportion of syces, who might be attached to the horse depôts suggested in question 21. Of course this presupposes an addition to the establishment of drivers. This reply refers only to horse and field artillery.

See answer to question 7.

See answer to question 1.

Major C Wilson, Royal Artillery.

Captain W. Law, Commanding C-2nd Royal Artillery.

Captain G. C. Bayley, 18-8th, Royal Artillery.

Captain A. D. Anderson, Royal Artillery.

11. Do you consider the present mode of entertaining followers can be improved; and how?

Brigadier-General C.G. Arbuthnot, Inspector-General, Royal Artillery for India.

Colonel A. H. Murray, Deputy Adjutant General, Royal Artillery in India.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Colonel H. Strover, Commanding Royal Artillery, Thayetmjo.

Colonel A. C. Johnson, Royal Horse Artillery.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

Give higher rates of pay to and attest a certain percentage, and have the remainder on probation on lower rates.

Yes, I would entertain a better class and give a slight increase to their pay. The pittance these men now get barely supports existence, if it were not for help which they often get from the soldiers.

I think the present mode is satisfactory both to them and the corps entertaining them.

I consider they should always have huts provided for them and sanitary arrangements made, also sepoy tents in the field, &c., and cloth jackets given them, as some have at present. Each sub-division of a battery should have its share of them attached to it.

I cannot suggest any improvement in the method of entertaining followers.

The present mode of entertaining followers in this presidency could certainly be improved; for, although it acts well enough in peace, there is not sufficient hold on them when ordered on service, as they take the first opportunity to run away on finding themselves in a position or in a part of the country they dislike. I cannot confidently suggest how the present mode might be improved, but think that pensions should form a principal part of any new system.

I do not know how.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

Major H. C. Lewes, Commanding I Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

I do not think that the present mode of entertaining followers, perfected as it is by long experience, can be improved on. The regulations on all points are, I believe, sufficient. To increase the pay is not desirable or necessary, but, on the other hand, it cannot be reduced; and followers must, like all others, be attached to their allegiance to duty by the prospective advantages of pension.

If attention is given by commanding officers to keep up the descriptive registers and records of service; if a consideration for followers is impressed on all ranks, and if Government make some allowance in kind as to clothing and shelter in cold seasons and climates, as a matter of course and without waiting for casualties, I think nothing further is required.

I think the present mode answers sufficiently well. At some times and places syces are not to be had, and at others you have a fair choice. Many bring up their relations for employment.

I can suggest no other mode as an improvement.

I consider this one of the most difficult questions to deal with. It is not the mode of their entertainment that I consider faulty, so much as the rules under which they serve and the treatment they receive. All followers at Meean Meer and north and west of it should receive better pay and warm clothing, also be allowed tents when in camp. When a battery marches, carriage for the wives and families of the Native followers should be allowed by Government.

Special rules should be framed for the payment of a portion of the pay to the wives and families when they are left behind.

The Native followers in the northern stations should as far as possible be young men and bachelors, and should, if possible, be got by volunteering; this they would do if the inducements were good enough.

At present it is impossible to get followers to go to the frontier. The sufferings of the Native followers during the late campaign must have been terrible. The wives and families were left behind in the greatest destitution. The followers that were sent back from batteries as they crossed the frontier were either discharged or sent to join other batteries, which in many cases afterwards went on service. When these followers were sent somewhere else with their wives and families, no allowance was made them for extra expenses; and as these were men who did not cross the frontier, they will not get any batta.

Some of the followers from the Kandabar Column returned, having lost their toes from frost bite (two came to my battery). This has produced a very bad effect, and it will take a long period of good and liberal treatment before the intense dread of going to the frontier will be overcome.

The pension rules are very hard. A Native has to serve forty years before being entitled to any pension, unless invalided.

A liberal pension to all followers actually injured in the service, such as the two men I mentioned before, would, I believe, have a very good effect. These men, though incapacitated from following their callings, *viz*, that of syce and grass-cutter, will only get Rs. 1-3-6 and Rs. 1-1-1 per month respectively.

There will probably never be much difficulty in getting syces down-country.

The pay of the grass-cutters should be increased to Rs. 5 for single, and Rs. 10 for double, grass-cutters.

A double grass-cutter has to give his pony one seer of gram a day: with gram at 15 seers for the rupee, which has been a common price during the past years, it comes to Rs. 2 for a 30-day month.

A pony fund should be formed and kept up by monthly subscriptions from the grass-cutters, and the ponies should be bought and paid for out of this fund.

The Native followers receive the same pay as they did years ago, when grain was often 30 seers for the rupee and generally over 20, whereas now it is 12 seers for the rupee.

No 1

Major T. M. Hazelrigg, Commanding E-8rd, Royal Artillery.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

I think if all followers could be entertained in the district in which the regiment or battery with which they were expected to serve was stationed, and were handed over in exchange to the relieving regiment or battery, they could probably be got to serve without the prospect of a pension, as their children would most likely be employed after them. When they became old and worn out, they would be more easily registered and recognized. If they had (as it were) permanent homes, the women and children would not be the encumbrance they now are. Of course, the men

themselves would have to move with the regiment or battery on relief, exchanging upon the march if they met the relieving corps, or being sent back on arrival at the new station.

Major C. F. Nairne, Royal Horse Artillery.

Major P. Fitzgerald Galloway, Royal Artillery.

Major W. H. Noble, Royal Artillery.

Major W. R. C. Brough, Royal Artillery.

No improvement occurs to me.

By reducing all Native establishments, as I have above suggested few would be left. These might be regularly enlisted like the lascars, and given pensions.

See answer to question 9.

A more formal method of entertainment and one entitling them to the benefit of fixed rules, not alone regarding pay but pension and clothing, would, I think, improve the ease of followers, and secure a man more useful in emergencies. Pension, to which they would be entitled without invaliding after a certain number of years' service (above a certain age); commuted pension, or some fair reward for their services, on reduction of establishment or discharge from injury received in the service; some slight annual allowance for clothing to syces and grass-cutters, would probably effect much and at little cost. A form of entertainment, signed and asserted to be true before a magistrate, would, if it gave name, family, home, next-of-kin, &c., not alone allow deserters to be traced but properly punished—perhaps avoid the lies now told by a bad lot on entertainment, or deter others from going.

Not without raising their status, which would increase expenditure.

Captain W. Law, Commanding C-2nd, Royal Artillery.

Captain A. D. Anderson, Royal Artillery.

I think that, for the sake of discipline, all followers should be put through the form of enlistment, to which they don't object, and that in return an allowance for a suit of clothing of regulation pattern be made them annually, or some hope be held out to them of pension at the completion of a fixed number of years of good service. No one gets servants as cheap as does the Government; and clothing (a coat or *puggree*) and pension (be it ever so little) would go far to improve their status. That the follower, such as is found now in India, will ever reward the trouble of organizing his class, I doubt; and if the cry that the soldier, European and Native, on Indian service requires Native followers to dry-nurse him must be listened to (though these luxuries are not allowed him in Abyssinia, the Cape, or hot countries of Europe, should he have to serve there), I submit our safest plan as regards them will be to have as few of them as we can,—a minimum in peace time, and a reduction on that for service. I feel perfectly convinced that the English plan could be adopted in this country; that shoe-makers, tailors, storemen, weighmen (if required), workmen of every class, except bhicties and sweepers, could be superseded by enlisted men receiving working pay for their labor, and that where casto in Native corps interfered men could be enlisted for the posts; that officers' servants should in like manner be soldiers from the ranks; and that the system, if carried out in its entirety, would greatly increase the efficiency of the army and the safety of our columns when marching in an enemy's country. Few officers would, I believe, not agree with me when I say that a batman, be he European or Native, is, as a rule, worth any number of ordinary Native servants; and I am sure a very large proportion would gladly make the change for service and hard work.

I took with me on service five men; it took me all my time to get two of them back alive to India, far less get any work out of them; while numbers of officers could show a fairly heavy death-roll among servants alone. In General Stewart's head-quarter camp there were, roughly speaking, 30 officers with an average of at least 5 Native servants a piece, total from 150 to 200 men. Whenever we moved, a company was detailed from the fighting strength of the nearest regiment for escort and guard. The same went on in the different divisions and corps, until regiments marched off parade, European 250 and Native infantry about 150 strong. On the English system the 30 officers in General Stewart's camp would have furnished at least one batman and two grooms a piece, or from 90 to 120 men, soldiers, European or Native, as the case might be, but ample for all requirements of escort and baggage duties; and the same plan carried out throughout the camp would—

first, have swept away any number of useless followers; and second, allowed regiments to have as nearly as possible their fighting strength available.

For a hot weather campaign in the plains of course special allowance would be required; but for ordinary campaigns, such as

the last and the present expedition to Cabul, I submit the gain in efficiency would be decided, while with the officers themselves the scheme would be popular. For regimental and battery officers numbers of good servants would be forthcoming, while the staff would be, as they are in England, at the mercy of the nearest regiment, who, from their full war strength, could easily spare the few men required. The balance of Native followers then remaining, after reduction to the very lowest point, should, I believe, be armed with a light breech-loading carbine, instead of their present sword, of which they do not know the use.

Captain G. C. Bayley, 13-8th,
Royal Artillery.

I think it would be an excellent thing if all followers, private as well as public, could be enlisted, and supplied with suitable uniform clothing, which would show distinctly—

(a) that the man belonged to the service,

(b) what his functions were.

I think it might be well, if this idea were entertained, to have a very elastic system of enlistment, so that those followers who were only required for a war might be enlisted for that war and three or six months after (to allow time for their discharge and passage to their place of enlistment), or for so long as their services might be required. This would settle all questions as to their legal status, rights, claims, &c.; and by providing pensions for the families of those who died during a war, it would, I should think, facilitate their enlistment. There can be no doubt as to its being a help as regards discipline and administration.

Lieutenant E. C. Wace, R.A.,
No. 4 (Hazara) Mountain Battery.

I think that there might be some system of registering in the district civil offices; the capabilities of each village and *tehsil*, with reference to the number and description of camp-followers who can be supplied when required by the State, in the same way as the capabilities of each village, should be registered with reference to transport.

12. Can they be so organized in peace as to make them less dependent and defenceless in war?

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

I do not think any thing can be done until, by giving higher pay, men of a better stamp are obtained. Arms in the hands of a grass-cutter or doolie-bearer of the prevailing stamp merely afford an additional inducement to attack him for the sake of obtaining his arms.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Yes, by getting, as above suggested, a better class and giving them means of defence. The present race have no heart to fight; and if they had, with their weak fragile frames they are physically unable to wield a weapon, even in self-defence.

The arms given to the Native followers were too large for them to use; and I think the description given to me of their being more a terror to themselves than to the enemy is possibly not far wrong.

Colonel G. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Certainly. They should all have some drill and be armed for self-defence. Whatever the weapon may be, they must be taught the use of it to a certain extent.

Colonel H. Stroker, Commanding Royal Artillery, Thayetmyo.

All artillery in the field is dependent and practically defenceless as far as small arms are concerned; but there appears no objection that I know of why the followers should not be enlisted and armed with the artillery snider carbines as these become available on the issue of the Martini-Henry carbines to the royal artillery, except that the followers might think themselves above their proper work. The bhisties, cooks, grass-cutters, sweepers, should not, I consider, be armed, except where the grass-cutters have ponies, when a portion of them might be.

Colonel A. C. Johnson, Royal Horse Artillery.

I do not think any amount of organization short of drilling and treating them exactly like Native soldiers, which is impracticable, would render the stamp of followers entertained less dependent and defenceless in war.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

As a rule, Native followers are not a fighting class, and must always be dependent in war. I cannot therefore see what good would accrue from a training antagonistic to their feelings and instincts.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

I doubt this being possible; certainly not without increasing expenses. They have no time for training sufficiently with firearms to make them more than a dangerous rabble.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

I do not see how followers on small pay can receive much organization without at once increasing their expense. Those who are enlisted

and attested (especially gun or store lascars, and syce drivers) might have a certain amount of drill; and of this class each man, or some of every party, might have *tulwars* put into their possession on service, when likely to be detached on duties which would take them away from the protection of their corps.

Give them a sword or spear. I do not see that you can do more. You cannot make drilled soldiers of them; they are not the right stuff, and it would interfere with their proper work. If they do not straggle on the march, or at any rate if they band together and have sharp swords and spears, they won't suffer very much I think.

I think it would be a good plan to give them a little drill and a very simple uniform. This would encourage a soldier-like spirit among them, and would make them better workmen. I used to make syces in a field battery (E-16th in the year 1869, &c.) provide themselves with white shirts, while I provided red *cummerbunds* and *puggrees*. I am sure they worked better and were "better men" for it.

Yes; they could certainly be taught the use of a short sword.

I think a certain amount might be done in the way of making the syces march along the road in the body and keep near the battery when moving in a hostile country. A short sword might be given them, which they could be taught to use. I would be entirely against entrusting them with firearms.

No! If armed, they would probably be more or less confident in themselves, and straggle even more than they do now.

No, I fear not. Their very defenceless condition, I think, is one source of our strength. The more self-reliant they become, from their very numbers they must be more dangerous.

The store lascars should be armed with swords. A few syces also, who take to wrestling and single stick as a pastime, might possibly defend themselves if attacked; but with these exceptions, the followers are an im-provident set of fatalists, and in the ordinary avocations of life exhibit neither care nor foresight, and I do not think it can be taught them with a view to their self-preservation on service.

Their only idea is to run away, and they do not do that with vigor.

I think in this case they could all be better organized, and might each have a short *light* sword, not the unwieldy things given them in the late war.

See answer to question 9.

I think this impossible, without a great increase of pay and prospects and regular enlistment. When in the hands of a far better class of men, a weapon might be of use; now it but offers temptation to a ruffian to take it, and probably murder with it the owner.

I see no other means but arming a portion, which would necessitate drill, and make them above their work. I think that in war most of the followers of a battery could be dispensed with, except perhaps grass-cutters, who seem by the accounts to suffer most. But if they were always accompanied by mounted orderlies who took care where they went, they ought not to stay beyond picquets. Bhisties would be always necessary; and I think cooks.

See answer to question 11.

I cannot say; but I think if they were all enlisted as already proposed, it might have some effect. Officers' servants at home are all enlisted men, soldiers: why not in India? But whether those Natives who take domestic service in India could ever be induced to fight I cannot say. If they could not, I would still enlist them, and supply them with suitable uniform clothing, &c., for the reasons already given; but I would not arm them. To give weapons to a man who has no idea of using them appears to me a great mistake; for—

- (a) it throws an unnecessary burden on the ordnance department, and an unnecessary expense on the State;
- (b) it frightens the man himself, and makes him more unwilling to serve, and more likely to desert. If the danger were not something terrible, why should a peaceable man like him be troubled with weapons?
- (c) it makes the enemy all the more likely to kill him. Persons carrying arms are presumably fighting men and ought to be killed. The weapons will then probably be lost, having previously been worse than useless.

Major H. C. Lewes, Commanding
I Battery 1st Brigade, Royal
Artillery.

Major J. Haughton, 1-8th Brigade,
Royal Artillery.

Major E. T. Hume, Commanding
C Battery C. Brigade, Royal
Horse Artillery.

Major W. W. Murdoch, Com-
manding E-A, Royal Horse Artil-
lery.

Major T. M. Hazelrigg, Com-
manding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

Major C. F. Nairne, Royal Horse
Artillery.

Major P. Fitzgerald Gallwey,
Royal Artillery.

Major W. H. Noble, Royal Artil-
lery.

Major W. R. C. Brough, Royal
Artillery.

Captain W. Law, Commanding
C-2nd, Royal Artillery.

Captain A. D. Anderson, Royal
Artillery.

Captain G. C. Bayley, 18-8th,
Royal Artillery.

Lieutenant E. C. Wace, R.A.,
No. 4 (Hazara) Mountain Battery.

At the annual cold-weather camps of exercise in each division in India the camp-followers, whose names are registered in the district offices, might be called out, under exactly the same circumstances as in time of war, be given free rations and about Rs. 4 a month, and be told off to their several duties, just as would happen in the field. In this way they would learn their work, be accustomed to the surroundings of camp-life and all its restrictions, and those for whom they work would, in their turn, learn more of their peculiar ways and habits. A mutual confidence would thereby arise, and they would learn where to look for safety and to whom to apply for orders, &c.

13. Taking the list of followers attached to a battery in succession, state how the duties performed by them are carried on at home.

	List of followers.	How their duties are performed at home.
Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.	Lascars ...	By limber gunners
	Syces ...	„ gunners and drivers.
	Grass-cutters ...	„ contractors.
	Bhisties ...	„ gunners and drivers.
	Sweepers ...	„ gunners and drivers.
	Moochies ...	„ collar-makers.
	Mistry carpenters ...	„ wheelers.
	Filemen, firemen, hammermen, and mistry smiths ...	„ farriers and shoeing-smiths.
	Lascars, store ...	„ gunners.
	Lascars, tent ...	„ ditto.
Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.	Puckalies ...	„ gunners and drivers.
	Bhisties ...	
	Sweepers ...	

In England water is always laid on; a soldier has only to go to the tap. There are also sewers, conservancy arrangements, and scavengers, which do not exist in India.

Syces ...	Gunners and drivers.
Grass-cutters ...	Contractors.
Bullock drivers ...	Nil.
Mistry smith ...	Farriers and shoeing-smiths.
Fireman ...	
Hammerman ...	
Mistry-carpenters ...	
Carpenters ...	Wheelers.
Moochies ...	Collar-makers.

All duties at home are of course performed by Europeans, but under very different circumstances and conditions. The two countries are so essentially different in every particular, that comparison in the foregoing particulars seems quite inapplicable.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

1st, *lascars*.—Their duties are at home performed by the men, but, owing to the climate in this country, their assistance is necessary for the due preservation and care of the expensive and valuable stores of a battery.

2ndly, *syces*.—Ditto.

3rdly, *grass-cutters*.—By the Commissariat at home.

4thly, *bullock-drivers*.—By extra European drivers.

5thly, *bhisties and puckalies*.—By a system of pumps, handy to the men.

6thly, *sweepers*.—By fatigue-parties and room orderlies.

7thly, *Native artificers*.—By extra European artificers.

I would call attention on this point to the large extra number of Europeans and horses to a battery on war establishment at home over that in this country. If the climate even admitted of Europeans performing all and every duty here, I do not think any saving would be effected by the substitution of Europeans for these Natives.

In my opinion, the Government of India now possess really efficient batteries; and I would avoid tampering with their establishments at the risk of lessening that efficiency.

Colonel H. Stroker, Commanding Royal Artillery, Thabemyo.

I have had no experience with a battery of field artillery out of India, except for a short time in New Zealand; but I know that the drivers, artificers, and gunners have no assistants—everything is done by them. But the climate, the proximity of the water, the difference in the sanitary arrangements, enable this to be done in England; and

harness lasts longer there. Artificers are sometimes sent about to do special work or alterations to gun-carriages in England. Probably skilled labor is always to be obtained there when required.

Colonel A. C. Johnson, Royal Horse Artillery.

Syces.—At home the soldier grooms and attends entirely to the wants of his own horse.

Grass-cutters.—Hay is issued as part of the daily ration of forage.

Cooks.—The men at home cook for themselves.

Dhobies.—The washing is done at home by soldiers' wives.

Bhisties.—Water is laid on in barracks, and, when necessary, is carried by the soldiers themselves.

Mekters.—Cleaning of barrack-rooms, squares, &c., is carried on by fatigue-parties.

Native Mistries.—These men are assistants to the European artificers. The working-hours in India are so limited (as far as Europeans are concerned), that the work of a battery could not be carried on without them.

Gun lascars.—The duties of these men are at home performed by gunners.

With the exception of washing of clothes, by the men of the battery.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

Syces.—Altogether by the gunners and drivers themselves (the climate making this feasible).

Grass-cutters.—Corn and hay supplied by the commissariat daily, exactly in the same way as the men's rations.

I cannot see why this should not be done in India. I think it would be much better than the present system.

Cooks.—By the men themselves (the climate making this feasible).

Dhobies.—By the men's wives (the climate making this feasible).

Bhisties and puckalis.—By the men themselves, pipes, pumps, &c., being close at hand or in barracks and stables.

Sweepers.—By the men themselves in part, and by contract.

Lascars.—By the men themselves; but the out-of-door work done by the lascars in this country could not be done by Europeans on account of the heat during the day-time, the men having the whole day to work in out-of-doors. At home they have sufficient time to do all; but they could not stand working out-of-doors in this country during the day.

Bildars.—As for lascars.

Native artificers.—By the European artificers themselves.

But in the same way that an officer requires a number of servants in this country to replace his soldier servant and groom, the battery requires its extra Native establishment, and cannot do without it.

As British soldiers do every thing for themselves at home, except washing, there is, I think, no comparison to institute. There are artificers, with appropriate rank and pay for the repair of the different descriptions of equipment and for shoeing horses, &c. A tailor's shop is an obligatory, and a shoemaker's shop a usual regimental institution; and, under the superintendence of non-commissioned officers, soldiers do all cleaning and carrying work for themselves.

Washing, with repair of under-clothing, except on field service, is put out, and usually done by soldiers' wives, who are not often above working at home. On field service, as on boardship, each man must wash for himself.

The duties of the lascars, which mainly consist in those of messengers, letter-carriers, care-takers, office orderlies, are at home performed by non-commissioned officers and gunners; those of the artificers, by the European soldier artificers; those of the syces, by the gunners and drivers and rank and file non-commissioned officers; those of the cooks, by the gunners.

The duties of the sweepers, as far as latrines are concerned, are matters for the attention of the Barrack Department. Sweeping, cleaning up, &c., &c., are done by fatigue-parties of soldiers and room orderlies, &c.

The duties of store and tent lascars, syces, cooks, and sweepers are carried on by the men of the battery.

The duties of dhobies by the wives of men of the battery.

The duties of grass-cutters are performed by the commissariat.

The following is a list of followers attached to a battery of royal horse artillery, with the duties performed by them, and the manner in which these duties are performed at home:—

Mistry-smith.—Does all the iron-work required for the repairs or alterations of carriages and all iron-work with the exception of the shoeing.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

Major H. C. Lowes, Commanding I Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

The work performed by this mistry at home would be done by the farrier or a skilled workman sent on purpose from the arsenal, Woolwich.

Filemen.—These men make horse-shoe nails, and finish off the shoes before they are finally nailed on. On emergency they can make shoes, though not fit or nail them on. In England nails are generally bought, and the other work is done among the farrier and shoeing-smiths and acting shoeing-smiths.

Fireman.—Attends the fire and blows the bellows. This work at home is done by the Europeans.

Hammerman.—This man is the regular striker. At home this is done by the shoeing-smiths.

Mistry-carpenter and carpenter.—These men do wheeler's work and wood-work of every kind.

The work would be performed by the wheeler at home.

Moochees.—Moochees do all kinds of leather work, but the greatest part of their time is taken up in continually repairing the line-gear.

There being no line-gear ordinarily in use at home, the greater part of the work done by these men does not occur.

I would wish to add that although the number of Native artificers seems large, yet it must be remembered that service in India is so entirely different as not to allow of a fair comparison.

Farrier's shop.—The ordinary establishment of horses in a battery, royal horse artillery, at home is about 100, whereas in India it is 178.

At home there are three shoeing-smiths per battery. In India there are only two.

During half the year in this part of India the Europeans can only work in the morning and evening.

The farrier's time is almost entirely taken up with superintending the sick horses in the infirmary. There are a far larger proportion of sick horses than in England, and the infirmary is often a considerable distance from the stables.

In India it often happens that a battery is very short-handed through shoeing-smiths and acting shoeing-smiths being sent to the hills. I have known a battery have to go through a whole summer with only two Europeans in the shop, even reduced to one European for some little time. Again, if sent into camp during the hot season, unless good shade can be obtained, a battery is almost entirely dependent on the Native artificers. Had the Europeans more work to do than they have, I believe it would tell upon their health.

Wheeler's shop.—The establishment of carriages at home is now 9 and in India 21; but without taking this into consideration, the Native artificer's principal work is the continual renewing things that are used in the lines.

Collar-maker's shop.—Two moochees assist the collar-maker, but principally for preparing and making up line-gear.

To this latter work there is no equivalent at home. Were the Native artificers reduced, the Europeans would have to be increased.

Tindal.—Is the senior lascar. He has charge of the 12 lascars, and also assists the quartermaster sergeant in superintending the Natives about barracks.

Store lascars.—These are enlisted Natives; they assist the limber gunners in the washing and cleaning and charge of the guns and carriages, orderlies, and guards; they take many duties that cannot be performed in India by Europeans, especially during the hot weather.

Some of the duties performed by these are done by Europeans at home, but the greater part of their duties do not exist at home.

Puckalis (water-carriers).—Their duties are to bring water to the barracks for cooking, drinking, and washing, often from a distance. At home water is laid on all over the barracks, and their duties do not exist.

Bhisties.—Same as above.

Sweepers.—These men sweep out and keep the whole of the barracks, wash-houses, cook-houses, and out-buildings clean.

Their duties at home are performed by men told off for these duties.

Syces.—Assist in the care, grooming, watering, and feeding of the horses.

These syces or Native grooms are necessary on account of the large number of horses in a battery, and the impossibility of Europeans working in the middle of the day in the hot weather. If the climate was more temperate, their numbers might be reduced, but they cannot be reduced for ordinary work.

During the hot weather, if there is an unusual amount of sickness, a battery is sometimes under 100 Europeans fit for duty; therefore at such times if the syces were reduced, the work of the Europeans would

be immensely increased and cause even greater sickness, or the horses would be neglected.

Grass-cutters.—Bring in grass. No such thing at home, as hay is delivered every day at the barracks by the commissariat.

Major T. M. Havelrigg, Commanding E-3rd, Royal Artillery.

<i>India.</i>			<i>England.</i>
Lascars	...	...	Soldiers.
Syces	...	...	Do.
Cooks	...	...	Do.
Bheesties	...	...	Do.
Mistries	...	...	Do.
Grass-cutters	...	...	Contractors.
Sweepers	...	...	Do.
Bullock-drivers	...	...	No bullocks.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

Non-commissioned officer, quartermaster sergeant.

Limber gunners.

Quartermaster sergeant and battery storeman (usually an old gunner).

The men.

The men.

The men.

Hay is always supplied by commissariat contractor.

Artificers, farrier, and shoeing-smith.

Wheeler.

Collar-maker.

No bullocks in England.

The men.

Artificers.

Major C. F. Nairne, Royal Horse Artillery.

Tindal store lascars.—By storemen and limber gunners. But in India these cannot work in the sun or during the heat of the day. Store lascars are also used for orderlies, and to provide guards and sentries over stores which in England do not amount to one-eighth of those in India. They also occasionally take sentry work, when the Englishmen are so reduced that they do not get the minimum of five nights in bed.

Permanent tent lascars.—In England no camp equipage is left in battery charge.

Puckalis; bhisties.—Water is always laid on in England.

Sweepers.—Permanent water closets.

Syces.—By the gunners and drivers; but it must be remembered that the number of men in England during peace time in a battery is the same as in India for both peace and war, while there are only 108 horses in England against 178 in India. (There are no wagons in England.) Grooming of horses can be done throughout the day in England, the principal stable hour being mid-day.

The grooming of horses in India during the hot weather is so fatiguing and deleterious to health, that, if I had my way, no Englishman should do it. He is too valuable to be expended in that way; and the morning and evening sun in the hot weather, coupled with the stooping position of the man, induces much fever.

Grass-cutters.—By the supply department of the army service corps.

Bullock-drivers (permanent).—Partly by the army service corps, partly by railway and carriers, and occasionally by regimental fatigues.

Native artificers.—By the English artificers, of whom there are a larger number in England than in India, and they are able to work all day all the year round.

Mutanddy (weighman).—These are connected with duties in the bazaar, and their work is unnecessary in England, owing to the superior enlightenment of and competition among the shop-keepers.

Cooks and dhobies.—These men are no expense to the State, being entirely paid by the men. The cook's work is done by the men in England, but is manifestly impracticable during the hot weather in India. The dhobie's work is at home done by the soldiers' wives.

Major P. Fitzgerald Gallwey, Royal Artillery.

Without the trouble of writing down all the followers of a battery, it will be sufficient to say that *all* the duties performed by them in India are done by the men of the battery at home, and much more could be done by the latter out here than is done now.

Major W. H. Noble, Royal Artillery.

See answer to question 9.

Major W. R. C. Brough, Royal Artillery.

Store lascars.—Thanks in a measure to that excellent system which allows a rotten strap or worn-out article of equipment to be replaced without committees, long indents, and useless delay, there are no stores almost, save those in the battery carriages, at home. The quartermaster sergeant and his assistant look after such few articles as there are.

Tent lascars.—Tents there are none.

Native artificers.—The collar-maker and his assistant, the wheeler and his, the farrier-sergeant and his shoeing-smiths, are at home equal to the work of all ordinary repairs, but line-gear is unknown, and arsenals take in all articles requiring extensive repairs, re-issuing others in their place at once, and reserving these articles, when repaired, for after-issue.

Syces.—Cleaning stables, harness, watering, feeding, and cleaning horses (helped by the gunner when not on other duty), is simply the life of the driver at home. Up early in the morning, both summer and winter, he is never clear of work and duty till late in the evening, unless indeed on Sunday, when, if not on stable duty, he has the afternoon to himself.

Grass-cutters.—Hay, or in summer hay or soil, is drawn and brought to the stables by a fatigue-party.

Bhisties and puchalis.—Water laid on or pumps render water-carrying unnecessary.

Sweepers.—The barrack-rooms, grates, &c., are cleaned by room orderlies.

Cooking is done by the men themselves. Coal is drawn once a week by fatigue-parties and distributed by them.

Washing is given as a means of making a little money to deserving wives of soldiers.

Tailors.—Every battery has men employed in the master-tailor's shop, and he undertakes the making up and repairing of clothing.

Boot-maker.—Some outside tradesman enters into an agreement to execute repairs, and contracts to supply boots at a certain cost.

Captain W. Law, Commanding
C-2nd, Royal Artillery.

1 Mistry-smith	...	}	1 Farrier sergeant and 3 shoe-
1 Fireman	...		ing-smiths, with 2 or 3 acting
2 Filemcn	...		shoeing-smiths.
2 Hammermen	...		
1 Mistry-carpenter	...	}	2 Wheelers.
2 Carpenters	...		
1 Moochee	...	}	3 Collar-makers.
1 Tindal	..		
12 Store lascars	...	}	Gunners.
2 Tent	...		
1 Hand-bhistie	...	}	Cook's mate.
3 Barrack sweepers	...		Gunners and drivers.
3 Jemadar syces	...	}	Drivers.
71 Syces	...		
2 Halalcure bhisties	...	}	Engineer' department.
2 Latrine sweepers	...		
1 Bildar	...	}	Contractors.
1 Filth-cart driver	...		
2 Chowkidars for hay-	...	}	All hay is in the hands of con-
stacks	...		
Grass-cutters	...	}	tractors.

Captain A. D. Anderson, Royal
Artillery.

Captain G. C. Bayley, 13-8th,
Royal Artillery.

See answer to question 1.

By the non-commissioned officers and men, European soldiers; those who perform these duties being either kept to them more or less continuously (employed men), or else the duties are performed by fatigue-parties. The only exceptions are the duties performed by the dhobies and bhisties, and part of the duties of the sweepers. Water is commonly laid on to barracks at home in pipes, or supplied by pumps; in fact, a barrack resembles a private house in this respect. Any soldier can pump, or turn a tap, and fetch a can or bucket of water. Any soldier may have to cook, sweep, or scrub a barrack-room, staircases, &c. There being water-closets at home, obviates the necessity of the more disgusting part of a sweeper's duties. The contents of dust-bins are, I believe, removed by civilian contractors. The washing is done by soldiers' wives, who get half-a-crown a month (1d. per day) from each man they wash for.

14. Is the issue of cloth clothing for British troops necessary in all parts of India?

Brigadier-General C. G. Arbutnot,
Inspector-General, Royal Ar-
tillery for India.

I think so. In all stations in Bengal it can be worn with advantage for a short time in the cold season. Batteries ordered northwards for service or in relief must have it, and men ordered to the hills require it.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Colonel H. Strover, Commanding Royal Artillery, Thayetmyo.

Colonel A. C. Johnson, Royal Horse Artillery.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

Yes, necessary, because troops are liable to be moved from one end of India to the other at a moment's notice. The soldier must be clothed for service in any part of India. See also reply to question 18, paper A.

I should say certainly not. There must be many stations at which it is seldom or never required; but a difficulty in not issuing it at such stations would arise by a battery being suddenly ordered elsewhere where it might be necessary.

In Burma cloth clothing is almost necessary for about six weeks in the early mornings and at night from the middle of December to the end of January; but if the question were put to the men, they might prefer to have serge instead. A serge patrol jacket, that could be worn with or without a serge tunic under it, would give sufficient warmth; but the field artillery have no serge trousers or pantaloons issued to them.

If cloth clothing is necessary in one part of India, I should say it was necessary in all parts, as in course of relief a regiment or battery is liable to be removed from a very hot station, where there is little or no cold weather, to the Punjab or hill station, where the winter months are very cold.

The only stations with which I am acquainted where serge clothing would be more suitable than cloth are Madras, St. Thomas' Mount, and Trichinopoly.

I think so; there is no part of India where cloth clothing is not necessary during the night in the cold or monsoon season. I speak from having served in Trichinopoly, Bangalore, Bellary, Secunderabad, and Kandy (all in the Madras presidency), and of course there can be no question as to the necessity in the north of India; but if it were feasible as regards the climate, such arrangement would interfere greatly with considerations of relief of troops, or immediate movement on service to colder climates, which, with railways, is a matter of a few hours.

As a matter of necessity for warmth, I do not think that cloth jackets and tunics are required at all stations in India. There are certainly some places in the Madras presidency where they would never be required all the year round; but who can prophesy that any corps may not suddenly require cloth clothing on transfer to a northern station, or to one on high plateaux, as Bangalore or Poona? Instance a regiment from this presidency sent to Afghanistan (as lately), or a battery sent from the almost continued heat of St. Thomas' Mount to the chilling climate of Bangalore, one of the most treacherous stations for the unwary in India. And what man is not liable to be sent as an invalid to a hill station any summer?

Cloth pantaloons are an undoubted necessity for mounted corps for mounted duties; and there is hardly a station in India where cloth overalls and trousers are not a sanitary necessity to keep men from chills in the fall of the year and the winter months, when damp evenings come on and the nights are cold.

Putting aside for the moment (since the question is perhaps raised on the prospect of a possible economy) the fact (though it is by no means unimportant) that the army, without full dress, could never turn out with the parade due and proper to special occasions, which occur from time to time to every corps at almost every station, there is the fact of the British soldier, having enlisted on certain terms, one of which is a suit of full dress annually (or compensation in lieu), and these terms cannot be set aside when he serves in India.

There might by habitually paying compensation be some saving on the freight of material from England and on local clothing establishment charges, yet it is a doubtful policy to make their regulated clothing a source of profit to soldiers; and then it will be evident that any clothing substituted for the cloth full dress must be an extra charge to the State, since the soldier bargained for the same clothing as his comrades in England, and it cannot be insisted that he should take anything inferior.

New terms may be made for a local army; but the terms of his engagement cannot, I think, legally or safely be varied with the present general service British soldiers beyond the alternate annual issues of full dress and undress with compensation.

No.—Where there is no cold season it is quite unnecessary. Serge lined with flannel or serge preferable. Cloth trousers, as at present issued, needlessly heavy and hot. A lighter material would be better. Of course pantaloons for mounted men must be strong.

I don't think it can be necessary anywhere south of Bombay. Serge would be better in the Madras presidency, where I served last year (except at Bangalore in the cold season, and in the Nilgiris).

Major H. C. Lewis, Commanding I Battery 1st Brigade, Royal Artillery.

Major J. Haughton, I-8th Brigade, Royal Artillery.

Major E. T. Hume, Commanding
C Battery C Brigade, Royal
Horse Artillery.

Major W. W. Murdoch, Com-
manding E-A, Royal Horse
Artillery.

Major T. M. Hazelrigg, Com-
manding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

Major C. F. Nairne, Royal
Horse Artillery.

Major P. Fitzgerald Gallwey,
Royal Artillery.

Major W. H. Noble, Royal
Artillery.

Major W. R. C. Brough, Royal
Artillery.

Major C. Wilson, Royal Artillery.

Major Barlow, Commanding
10-8th, Royal Artillery.

Captain W. Law, Commanding
C-2nd, Royal Artillery.

Captain A. D. Anderson, Royal
Artillery.

Captain G. C. Bayley, 13-8th,
Royal Artillery.

Yes, in all parts that I have been to.

I cannot say, having only served in the North-Western Provinces and Punjab. It is certainly necessary there.

I think not, except pantaloons for mounted troops. Cloth undress jackets and trousers might be done away with, and thick serge given instead.

No.—Cloth clothing is not worn as many hours at Calcutta as days at Peshawar; and the regulation cloth clothing is too thick for many stations in India at any season of the year.

N.B.—A report upon this special subject has lately been furnished to head-quarters by all commanding officers (myself included).

I have never served in Southern India. Cloth is necessary elsewhere.

Certainly not to the extent now issued. A soldier at Trichinopoly gets the same clothing as one at Peshawar: this is quite unnecessary. I would have a scale to suit certain geographical circles and also a scale of light clothing: both these the soldier should obtain free, and all compensation be abolished. This system of compensation gives a great deal of trouble to commanding officers, and is a very clumsy one. For cavalry and artillery I would abolish the stable jacket altogether in India: it is never worn on service, and in peace time the serge jacket generally takes its place.

I would retain the dress jacket and tunic (latter for all arms except horse artillery), as, if properly made, it is a warm and becoming dress in a cold climate; but in the Madras and Bombay presidencies, in Burma and Bengal proper, I would issue these only triennially instead of every two years. I have seen Native followers in Southern India wearing east-off full-dress clothing which was quite good.

I should also like to see the present boots and pantaloons done away with for the above districts. They are totally unsuited to a hot climate, and are a great expense.

The wearing of cloth clothing is certainly not necessary in all parts of India, but its issue depends upon whether batteries in the southern portions of India are liable to be suddenly ordered to stations where cloth clothes are necessary.

I do not think the present scale of issue of cloth clothing for artillery can be necessary in any part of India. Even in the Punjab a man in a few years accumulates a heavy kit of duplicates, whilst further south articles as good as new are disposed of.

I consider serge might advantageously be substituted for the tunic and jacket in all parts of the Bengal presidency in which I have served.

I consider cloth clothing to be useless in Burma. During the rains it is found necessary to wear serge. Cloth is quite unbearable in the close damp heat. In the hot weather white clothing is worn. In my experience at Rangoon the so-called cold weather lasts a few days only, and even then serge is warm enough. I have not been at Thayetmyo in the cold season, but have no doubt that serge would be best here also and for the whole of Burma.

Wherever I have been, cloth pantaloons and trousers are necessary. Serge jackets made loose would do as well as tunics.

Yes; I know of no station where it could be dispensed with entirely. The present issues, with occasional compensation in lieu of them, seems to work well. It might be an advantage if at stations (say Barrackpore) where white clothing is much worn if, at the recommendation of commanding officers, compensation in lieu of the clothing were allowed oftener, and in the same way not so often at stations like Bangalore or Poona, where white is but little worn.

Not in the Madras presidency, nor in Burma, so far as I know. Serge and white clothing are quite sufficient for those parts, and I have never seen cloth worn except on a Queen's birth-day, 1st January, or a general's inspection.

15. In what way can the uniform and equipment of the British army in India be improved?

Brigadier-General C. G. Arbuth-
not, Inspector-General, Royal
Artillery for India.

The stable jacket might be abolished, reducing the coats to tunic or dress jackets, white tunic and serge. All drivers should be armed with revolvers.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Colonel H. Strover, Commanding Royal Artillery, Thayetkayo.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

The soldier should be clothed for war, and not as at present for peace. Every one should be so clothed as to be able to take the field at a moment's notice with the greatest comfort to himself, so that the most work may be got out of him; and the dress should be such as to be suitable for dusty, sandy, stony roads, rainy muddy weather, hill-climbing, dragging, or carrying heavy weights, marching or riding long distances, sleeping in the clothes, suitable for hot weather and also cold by adding under-clothing. At present the service uniform meets none of these requirements.

See also reply to question 17, paper A.

I consider the uniform and equipment of the mountain batteries as a vast improvement, in every particular almost, on that now in use by either horse or field artillery. The sword, however, of any description, should never be worn on the body of a man serving a gun, in my opinion.

It might be an improvement to have the drill dyed grey, just dark enough not to show dirt easily. The helmet in use is thought not to give sufficient protection against the sun, and not to have sufficient ventilation. Perhaps the wickerwork and cover could be put over pith, and large moveable buttons or pieces closing the tops of the helmets or bases of spikes used. The spike could be fastened into the button, and the button could be placed so as to give more ventilation (if desirable), and could be fastened with three screws with nuts. The knapsack and valise appear to be too heavy for use in India in marching. A light tourist's knapsack made of the flax cloth used for shooting, gaiters, bags, &c., and lined with cloth macintosh, that should be kept from touching the back by a framework of wood or cane, would make it possible for a man to carry always a change of clothes, brushes, &c., in it on marching. The valise and large bag do not appear to be made of sufficiently strong material. I consider these could be made with great advantage of the material I have stated as used for the tourist's knapsack, and have leather at the bottom, and leather straps that should take all the strain going nearly all round, being stitched to the leather bottom, so that the weight of the valise or bag should never bear on the material they are made of only, but always on the leather straps. In Afghanistan, Canadian knee-boots, fur caps and gloves, and the rest of the Canadian winter kit, would be very good in the cold season.

The present tunic should be made like a Norfolk jacket. It could then be made far looser, without looking unsightly, and thus allow of more clothing being worn underneath in cold climates; it would also be a suitable dress in which to work. I will make no observations on the stable jacket, as it is about to be superseded by the patrol jacket. I am of opinion that want of elasticity is the great fault to be found with the material of which all soldiers' uniform is made. This remark applies particularly to material for mounted men's clothing. Valises ought invariably to be made of water-proof material, as also cloaks and capes.

For all occasions, except when full dress is worn (which ought to be kept intact as it now stands *above* the waist). I would have a loose blouse for all branches, with neat and necessary distinctions, tied in comfortably at the waist; and for mounted men knee-breeches and gaiters, with ankle boots and hunting spurs (dress and all kinds of undress).

Each man should always have two pairs of these boots; but they would not weigh with the gaiters as much as one pair of the present knee-boots. Baggage would thus be greatly reduced. The carriage of three pairs at least of *different* kinds of boots for mounted men as at present (for a soldier) is absurd.

Then a khaki blouse and pair of knee-breeches, to be used in all seasons on service and instead of the white during the hot weather in peace, should be introduced.

Some years ago khaki was ordered instead of white for the British army; but in a very few months afterwards khaki was represented by all sorts of colors, even in the same regiment. Since then, however, I have seen Native regiments dressed throughout in a uniform khaki color (so the dye is now apparently better understood). I speak notably of the 20th Punjab Native Infantry at Peshawar in 1876. If that color could be secured to the whole army, it would be a workman-like and really serviceable one. Officers, however, should be allowed to wear white at mess, as at present in the hot weather during peace, but not on service.

In this way both a hot and cold weather dress for peace and war would be in each man's possession, and both should be carried on all occasions.

The khaki suits should be made large enough to be worn over the cloth suits, if necessary: their addition in cold weather on service would be an advantage both as regards warmth and color. In hot weather the cloth clothing must be carried as baggage.

I think buff leather should be discarded altogether; it retains wet longer than any other kind, and when it does dry, it is found to be out of shape and hard.

An extra supply of cool water could very well be carried for horse and field artillery were a large piece of leather slung under each wagon body. On this *marrows* when filled might be placed by the bladders. This system was carried out by the old Bengal artillery.

I do not think that the uniform of the British army for all-round purposes can be improved on. I believe the equipment of each branch of the service is very well maintained in all matters up to the latest ideas and improvements. The only improvement I would advocate is one which has often been put forward, and demonstrated by adoption in the irregular cavalry of this country and in some volunteer corps at home as being the best notion of efficiency, *viz.*, leather scabbards for all swords, say black with brass or steel mountings, according to the arm of the service.

That steel scabbards were of late years adopted for infantry officers seems only to be accounted for on the grounds of fashion. Leather wood-lined scabbards will after a time break, according to the fate of all perishable articles; yet steel scabbards are not superior to wearing out and accidents. Infantry bayonets are in black brass-mounted scabbards; so are the sword bayonets of the royal engineers, and so might be the sword bayonets of the royal artillery. Cavalry regiments now at camps of exercise, and when ordered for field service, often blacken their sword scabbards, to avoid the conspicuous glitter. Why should they not have black scabbards with steel mountings, and horse artillery also; although the more constant mounting and dismounting, the liability to catch looped swords in wheels, and the fact of artillery not having to perform conspicuous outpost duties makes such a change less necessary or desirable for them? The decrease of rattle in both services is desirable, and often very necessary.

Abolish the tunic. Introduce for royal artillery a jacket more of the cut of the officer's patrol, or hussar's pattern, sword-belts underneath. For infantry, Norfolk jacket pattern, which, neatly made, will give freedom and look well; Sam Browne's belt.

Knee-boots on service anywhere are a mistake. There is nothing like the gaiter, shooting (or ankle) boot, hunting spur, and pantaloons.

Kniekerbockers for dismounted men.

The soldier's great-coat is a most inferior article—the infantry worse than the royal artillery; but both bad enough. They get wet through in about 20 minutes in rain. Then what can be worse than dark-blue as a color? The cloth that is made in Afghanistan and those parts, or an Irish frieze, would be better. The good brown color of the former would be most serviceable, and the quality of the stuff is undeniable. Then the appearance of inferior blue cloth after a hard march through rain and slush there is no comparison.

It is admitted on all sides that the present peace uniform is of little use in time of war.

I do not like the mounted man's valise. It takes too much packing, and the material (blue cloth) is not so good as leather; but the latter would be heavier, which is an objection. If saddle-bags could be substituted, it might be an improvement. Then the appearance of the valise is in its favor. At reviews, &c., &c., it looks well.

N.B.—Royal artillery drivers should have some means of defence. I think a double-barrelled breech-loading pistol, same bore as carbine, so that on emergency that ammunition could be used.

The nose-bags and horse sacks are not durable.

By making all tunics of the Norfolk jacket shape, loose about the shoulders, confined at the waist by a cloth belt, removable when a leather belt is required. Instead of trousers have knickerbockers for foot-soldiers, with gaiters to spread over the instep. Mounted men to have no trousers, only breeches and long boots, with gaiters and shoes also. Two breast-pockets and two skirt-pockets in the coat.

1st.—By adopting the hook at the side of the helmet, as at home.

2nd.—By introducing the valise bed for all ranks, in place of the present cumbersome and unsightly method of carrying the men's bedding and bags.

3rd.—In the horse artillery by adopting the loose sergo jacket for wear at all drills, &c., when the tight-fitting stable jacket is at present worn by the men; also in lieu of the full-dress jacket when on the line of march.

Major Berlio Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

Major H. C. Lewes, Commanding I Battery 1st Brigade, Royal Artillery.

Major J. Haughton, 1-8th Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

4½.—In the horse and field artillery by replacing the present collar chains by head ropes, attaching covers to the wallets on officers' saddles, making officers carry field-glasses in place of the present useless pouch, and arming all drivers.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

I would not recommend any sweeping changes in the uniform of the army.

It must be remembered that a state of war is exceptional, a state of peace being the rule; and in an army entirely recruited by voluntary enlistment, it is most essential that the dress should be attractive.

The uniform is very good for peace soldiering, and is serviceable for campaigning in a temperate climate. In India, for hot weather campaigning, the present white cloths dyed khaki are suitable.

For campaigning in exceptional cold climates it will always be necessary to serve out extra warm clothing, as had to be done in the Crimea.

There are some few things that should most certainly be altered; and these are—

Pipe-clay belts should be abolished and brown leather substituted.

The manner of carrying the sword should be altered, and a short frog substituted for the present slings. All mounted corps should wear the sword underneath the tunic; the belt could then be of strong soft webbing and made like a girdle, with a webbing support over the right shoulder.

The white doeskin gloves used in mounted corps should be abolished, as they are useless, expensive, and get filthily dirty inside.

The eye would soon get accustomed to their loss.

Gloves only should be worn by a soldier in very inclement weather, as a protection; they should then be woollen gloves.

The officer's pouch belt should be altered or abolished; at present it is useless.

Have one full dress and only one undress, say of serge. Do away with undress jacket, cloth trousers, and Wellington boots, heel spurs, pipe-clay white belts, and leather gloves, also present forage cap.

Let issue be—

1 full-dress tunic	} Biennially.
1 pair of jack boots	...	...
1 serge coat	...	...
1 serge trousers, pair	} Annually.
1 cloth pantaloons, pair	...	...
1 warm gloves, pair	...	...
1 ankle boots, pair	Twice a year.

Issue brown leather belts—those for sergeants of all services and drivers of artillery, with pouch and case to carry pistol and ammunition.

Issue a folding forage cap.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

The first thing is to arrange to open the coat at the throat and abolish the stand-up collar; introduce trousers very high in the waist and regular *kamarbands*; let the hot-weather jacket only fasten across the breast, hanging open over *kamarband*; have a serge coat and a cloth coat of Norfolk pattern or the present serge pattern, which would answer well; keep one full-dress suit for state occasions.

Major C. F. Nairne, Royal Horse Artillery.

Abolish undress jackets and make the undress loose, comfortable, and easily kept clean. A Norfolk jacket of blue serge with pockets, made loose enough to be worn over the dress jacket, if needed, would do well, and might supersede the white tunic as well as the undress jacket. Give up buff belts and have either brown or black leather; brown is best.

If the sword be retained, it should be hung from a frog. The present slings are very dangerous when leaping, as well as fatiguing. The sword belt should hang from the shoulder.

I prefer the booted overall to boots and breeches; but if the long boots are retained, they ought to have a gusset over the instep closed with a lace, much as in the so-called field-boot. The leather of the spur could be made to hide this. At present many of the men cannot get a wet boot off and on. Change the present soda-water bottle for a flat one made of ebonite. The present bottle is heavy, holds too little, and breaks in large numbers. All garrison artillery should have gaiters.

Major P. Fitzgerald Galloway, Royal Artillery.

I think for the provinces referred to in answer 14 the issue *free* should be—

1 dress jacket or tunic	...	Every three years.
2 neatly-made serge jackets or short tunics	...	Annually.
2 pairs cloth trousers	...	Annually: 1 to infantry and dismounted royal artillery,

3 khaki jackets or short tunics.	} Annually: 4 to mounted men.
3 pairs khaki trousers ...	
2 pairs Wellington and 1 pair Cosack boots ...	Annually to mounted men.
2 pairs infantry boots ...	Annually to dismounted men.

It is difficult to suggest any improvement in equipment without the same being carried out at home; but I look on the present white belts (certainly in the infantry and garrison royal artillery) as totally unsuited to the soldier. I would substitute brown leather belts for them. An infantry or garrison artilleryman is now a mass of pipeclay when he turns out in marching order, especially with the new valise equipment on.

Major W. H. Noble, Royal Artillery.

The uniform and equipment of the British army in India are undoubtedly open to great improvement.

I would suggest that the whole question should be considered by a special committee of regimental officers representing the various branches of the service, and with experience in the several climates of India.

The broad principles which should govern their recommendations should be—

(a) Clothing the soldier in time of peace in garments which, with slight alterations or additions, would be suitable for time of war.

(b) The abolition of articles, the care and preservation of which require extra work, and thus worry the soldier. Buff belts for example.

(c) The abandonment of mere appearance in favor of workmanlike efficiency.

(d) Shaping the clothing so as to admit of free motion, and the addition of under-garments if necessary.

Any one who has seen a European mountain battery in India must have been struck by the admirable nature and soldierlike appearance of the clothing and equipment.

There is no reason why other services should not be made equally efficient.

Major W. R. C. Brough, Royal Artillery.

In the royal artillery a really serviceable and uniform head-dress of durable material is urgently required. A cork and india-rubber helmet issued from home turned out a complete failure; but I have seen felt helmets procured privately last in use with the men for years. Spikes are in the artillery not alone useless, but dangerous. A drab felt helmet, with brass dome ventilator and leather chin strap, if of proper shape, would be a serviceable and soldierlike head-dress. White clothing is unserviceable; and for mounted duties necessitates the one thing difficult to avoid in India—an immense kit. Yarn-dyed drab or khaki drill, if of good quality, retains its color for years; and Government might well substitute suits of this for some of the present useless cloth clothing. Men could complete this kit themselves, mounted men being allowed pantaloons for mounted duties.

Equipment.—The present water-bottle, being tightly covered with leather, is broken by a blow or jar against any hard substance: a piece of common country *numnah*, or thick coarse cloth, between the bottle and leather would almost totally prevent this. The haversack should be of khaki or drab canvas—*never worn folded*, and washed only when necessary. Brown leather instead of buff for sword-belt, &c., would be cheaper, more serviceable; and the material for repair would be always either at hand or easily procurable. Leather, not cloth, should be used for the manufacture of valises of men and line-gear bags of artillery. Cloth or canvas cannot last. At home valises are protected by sheep-skin covers—not so in this country; and not alone do they admit wet, but both they and the present line-gear bags become quickly worn out.

Picket ropes should be of three-inch not two-inch rope, and should be occasionally re-tarred.

Picket-posts should be large-headed iron pins, which would drive in almost any ground without breaking, as the present wooden ones so often do.

Major Barlow, Commanding 10th, Royal Artillery.

In lieu of any free issue of clothing, add the value to the pay, and then let the whole of the uniform be kept up in the same way as the rest of the regimental necessaries. I believe there would be a saving to Government, as well as an advantage to the men, if this method was adopted. Once the material for uniform is fixed on (say for Burma serge and white drill), the officer commanding would indent on the clothing department for material. Payment would be made as is now done for regimental necessaries—*i.e.*, as the material was used up, payment would be made. All returns connected with clothing might be simplified by this, and much waste would be prevented, as a careful soldier would be able to keep up his uniform with a small expenditure.

Under the present system a man with good tunic receives a second at a fixed time, the issue is of no use, and is so much value thrown away. The same system might apply to bedding.

As regards artillery, by throwing the tunic and stable jacket into one loose-made patrol coat for dress, and undress to be made of cloth one year and serge the next, and so fitted that it could have extra under-clothing to adapt it to various weathers. Abolish the white helmet, which is conspicuous and wears badly, and adopt a grey and drab felt one, with colored turban according to facings. Abolish white belts, and sling cavalry swords by a frog. A sharp spike is bad and dangerous in limbering up or picking up a horse's foot. A cannon-ball ornament would for artillery be safe and appropriate.

The committee of which Colonel Macgregor was president was going very fully into this point, and good was likely to have come of it. I beg to suggest that that committee be reassembled at the beginning of next season and the work commenced by it be completed. Generally speaking, in artillery the shell-jacket is unserviceable; but its abolition is being introduced in England, and India will follow. This will only leave us a full and an undress coat. The long boot has, I think, by all been proved unserviceable. A lace-up boot with a leather legging could be made serviceable as well as neat in shape. The artillery carbines could well be dispensed with; and give every man a pistol. Something more serviceable than the forage cap might easily be devised. A serviceable water-bottle is required.

I have never seen troops so well turned out as the Sikhs and Goorkhas (*i.e.*, as regards the khaki uniform of the latter)—I mean for service. I think the uniform of an officer (European) of a khaki-wearing Native regiment might be taken as a model for the British army in India. Of course, some slight modification would be necessary, but that might be the model; and a neat, soldierlike, and most serviceable uniform might be provided, vastly superior to the present.

16. Would you recommend the issue of a service suit of clothing made of cheap and durable material to be worn on service in the field instead of the present uniform?

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

There should be a good khaki suit for service, sufficiently loose to go over serge or cloth clothing.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

See answer to question 15.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

I would not. I would dress the soldier in a uniform that he could wear on service, and not in one which he has to lay aside on being called upon to perform a soldier's most important duty.

Colonel H. Strover, Commanding Royal Artillery, Thayetnyo.

I have no experience of the grass and flax cloths, &c. The regiments and batteries that are now in this station, on being ordered to be in readiness for active service, had the white drill uniform dyed. The 10-8th and K-1st Brigades Royal Artillery and the 81st Regiment Punjab Light Infantry now wear drill dyed a reddish-brown color with catch. The 43rd Light Infantry and 19th Regiment Madras Native Infantry and 44th East Essex Regiment have the drill dyed a dull greyish yellow with gunpowder. The 32nd Regiment Madras Native Infantry have the drill dyed a dark-grey color with a purple tinge. The last appears the best and seems to keep its color well. I consider the last an improvement on white for service on all occasions.

Colonel A. C. Johnson, Royal Horse Artillery.

I think the uniform worn by the European mountain batteries admirably adapted for field service for all branches, mounted men being supplied with boots and breeches instead of knickerbockers and gaiters.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

I would recommend the issue of two suits per man of khaki drill, made loose enough to be worn over cloth clothing when necessary, or by itself when the weather suited.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

I would not. Its issue would cause great trouble, just at a time when there is always plenty to do, and also add greatly to expense.

Were the suggestions in answer 15 carried out, this would be quite unnecessary.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

I do not see the object of issuing an additional dress for service. White clothing is out of the question; but if the soldier has one of his white suits dyed khaki color, has his serge suit, which by itself will practically do for any climate, and has his cloth full dress, which can

be worn by itself for warmth in ordinary cold climate, it is as much as can be carried. I do not see the object of saving full dress clothing when it is required, even on rough service. It is made to be used; it is an annual issue under agreement with the soldier, and is the property of the State. A full-dress jacket or tunic can be worn under a serge frock, as if it were a warm waistcoat, in severe cold; and in an exceptionally cold climate (when the wearing of cloaks and great-coats is insufficient), *poshtens* or other thick over-jackets would doubtless be issued to the troops.

Yes; and made large enough to wear over the uniform in cold weather.

No; I would not.

Campaigns in India are under such different circumstances, the troops may suffer from the extreme of either cold or heat.

Should the troops have a winter campaign in the hills, I would recommend the issue of a suit of warm clothing of durable material; but I doubt any material being at the same time durable and cheap.

For a summer campaign in the plains nothing is better than cotton khaki suits, and during a winter campaign in the plains the ordinary uniform.

No.—Undress uniform ought to suffice, if made of good material.

Yes; an established pattern should be arranged for, so that commanding officers could procure it locally when required. Distinguishing badges for staff departments, regiments, and ranks *very much needed for discipline* as well as convenience, even in hot-weather clothes.

Yes; a thick khaki cotton Norfolk jacket, made loose and comfortable with pockets; if necessary, to be worn over the dress jacket or cloth uniform.

This is necessary, and during recent operations was provided by the men themselves.

No.—I think if the present uniform was modified as above, it would answer all purposes of a campaign. White clothing should be abolished and good strong khaki issued instead: this, with the serge, would be ample. We have too many dresses as it is.

This would not be necessary if the soldier were suitably clothed in time of peace.

Yes, certainly: but why not issue this suit for cold weather wear, and abolish the issue of the confessedly needless portion of the present uniform?

Certainly, as I do not consider the present uniform suited to the climate; but, as an alternative, I would prefer to extend the principle recommended above in answer to question 15.

It would be difficult to fix on any dress which would be suitable to such variations of climate as are experienced in the Indian empire—for example, a dress suited to a campaign in Afghanistan, or to one in Burma. As a general rule, the ordinary dress would be suited to work in the field, or would be capable of being made so by a few alterations or additions. Much elasticity would be gained by making a payment in money of so much a head when troops are placed in order for active service; the sum to be expended by the commanding officer, under the sanction of the general, in providing such extra clothing as may be required. For a campaign in the hills warm under-clothing would be useful. For a summer campaign in Burma a strong dyed suit of drill or canvas, and in all cases an extra issue of boots.

Velveteen and corduroy are keepers' wear: the former could be smart enough for every-day use. I think the soldier's ordinary uniform would be fit for him to go fighting in: it undoubtedly is not so at present; and until such a uniform is suggested, the service suit seems a necessity.

No; extra suits mean lumber and trouble. The peace and war dress should be the same. The present arrangement of summer clothing being supplied regimentally is good, and would provide everything if Government, to gain its object, would do the following:—

(1) Order all summer coats to be made Norfolk pattern. This, being itself a loose fitting article, would provide for its being worn over other coats, and cloth might be doubled under at the side-seams.

(2) Contract with private firms to supply commanding officers, on payment, with yarn-dyed khaki cloth in the piece.

Major H. C. Lewis, Commanding I Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

Major T. M. Hazlrigg, Commanding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

Major C. F. Nairne, Royal Horse Artillery.

Major P. Fitzgerald Gallwey, Royal Artillery.

Major W. H. Noble, Royal Artillery.

Major W. R. C. Brough, Royal Artillery.

Major Barlow, Commanding 10-8th, Royal Artillery.

Captain W. Law, Commanding C-2nd, Royal Artillery.

Captain A. D. Anderson, Royal Artillery.

The summer clothing would then be what is required for service; and uniformity would be ensured without the hurry and confusion that arose regarding much of the summer clothing at the beginning of this campaign.

Captain G. C. Bayley, 18-8th,
Royal Artillery.

Yes, of khaki. But the uniform should be neat and soldierlike as well as cheap and durable. It should have metal buttons, the ordinary regimental buttons in fact, and the regimental facings; also the usual distinctions of rank, though not in gold lace. See remarks above. Though cheap, it need not be nasty. I much doubt, however, that if this uniform were not worn in peace, it would be forthcoming on the outbreak of war. At the end of the war, or say six months after it began, the uniform would no doubt be available in large quantities.

17. Can you suggest any economy in such matters as lighting of barracks, punkha-pulling, barrack furniture, bedding, &c.

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

Colonel H. Stroker, Commanding Royal Artillery, Thayetmyo.

No.

No, I cannot, never having studied the question.

In these matters the commissariat ought to be more economical than any other in so far as supplying; but I think certain extravagance is incurred through the system of fixing maximum rates for such matters.

The lighting at present in practice should be economical. It appears to be the simplest form of lighting; but I consider it would add greatly to the comfort of the men to have oil-lamps with good-sized chimneys and reflectors, that should be hung against the walls or posts about five feet from the floors. The banging lamps now used give no light for reading or writing. The barracks in England are well lighted with gas. The artificers and Native carpenters could be directed (when not actually employed at work on carriages of the field and heavy artillery) to make or repair furniture, they being remunerated for it. It might answer to have a machine of wood, with some ironwork, which should reduce the number of punkha-pullers in large rooms. It is very probable that this has been tried; but as I do not know what has been done, I mention it. The machine consists of two wheels, placed in the plane or direction of the punkha ropes to be pulled, connected by a framework of timber, and working together by means of a leather or gutta-percha band. The axles of the wheels are to revolve in sockets fitted into beams of wood, which should be fixed firmly on the ground. The smaller wheel is to be near the building, and is to have a projecting arm standing out perpendicularly from it at a distance of eighteen inches from its centre. To this the end of the punkha rope is to be fastened. This will give a pull of three feet on the punkha rope when the wheels are revolving. The large wheel is to be turned by a winch handle of a convenient length of lever, two feet three or two feet six inches long. This lever is to be worked by two coolies. It is to have a moderately small wheel on the horizontal part of it, and to work like a winch the large wheel, which is to be seven or eight feet in diameter. The cogs of the wheel on the winch handle and on the nave of the large wheel are to be of iron, which could be lacquered when the punkha season is over. The front or smaller wheel is to be four or five feet, or of whatever diameter may be found to give the required rate of pull to the rope. The axle of this front wheel is to be very long, to counteract the effect of the weight of the pull of the punkha rope coming only on one side; and the distance the arm projects from the side of this wheel is to be just sufficient to keep the rope from grazing against the circumference of this wheel.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Lieutenant-Colonel J. Ketohen, Royal Artillery.

I can only suggest the lighting of barracks by kerosine oil as a great improvement and possible economy, and punkha-pulling by machinery as an economy.

I believe a system of pulling punkhas by bullock draught has been carried out successfully in some places. If this could be done in barracks, it appears to me that it would result in great saving of money.

I can suggest no other economy.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace, the Governor of Madras.

I cannot suggest any economy in the lighting of barrack-rooms. As a regimental officer, I think the light in the men's room is generally most inadequate. The gloom of the usual ill-lighted room adds to the

dispiriting effect of the hot weary evenings, and makes cold evenings even colder. Men cannot read or write without keeping a private lamp. There is no reason why they should not put themselves to such a useful expense, but it is not right on principle. The reading-room certainly can be resorted to for these purposes; but the more genial canteen is the usual result.

I think any less punkha-pulling would be very very bad economy to the State in respect of the health of the soldiers as well as inconsiderate to the men themselves; but I do think that the work of pulling might be done mechanically at a direct saving in the cost of coolies and at a manifest advantage in doing away with their presence about barracks. The mode in which it is to be done might now be fairly worked out. Attempts to solve the problem have been, I believe, made from time to time during many past years, but without any scheme being established. I doubt steam-power being used economically or efficiently, except perhaps at the capitals, and at a few large stations, where the services of mechanical engineers are available to keep the engines going. Professional knowledge of steam machinery not being usually available, engines are more often an encumbrance in India than a lasting benefit, since the ordinary modes of labor of the country, which are suppressed and abandoned on their introduction, cannot be revived when a breakdown occurs. I believe bullock power working trains of punkhas through appropriate gearing will be found the best.

A scheme proposed by Lieutenant-Colonel Nowell Swanston, of the Quarter-Master-General's Department, Madras, seems well worthy of the consideration of the Commission.

I do not think that the ordinary barrack furniture is more than sufficient; and I do not know how it can be supplied in the first instance better than by contract with or without the intervention of the commissariat or other department.

I would not curtail the soldier's bedding in any way. To do so would, I am sure, be a danger to his rest, and therefore to his health; but I have always thought that certain unnecessary rights and privileges in respect of bedding (or compensation in lieu) are given to British soldiers in India. Why he should have a portion of his bedding given him here any more than in England or the Colonies, I never understood. The privilege, however, would have to be dealt with carefully as regards men now serving; but economy might be exercised in the matter when framing terms for local enlistment.

As regards other items of supply, I should think economy might be exercised by a larger supply of hill-brewed beer, instead of imported English beer. The large consumption of Murree beer at stations in the Punjab proves its popularity, especially in the summer months. I do not see why, if the supply of a good article can be maintained and developed, there should be any option given in the matter, at all events during the hot months of the year. The introduction of Indian teas in place of China teas was at first made on the vote of the British soldier; but in this matter the local article has been at length accepted as almost, if not entirely, the sole article of issue.

An opportunity for a similar economy in this presidency has just presented itself by the opening of a brewery with the latest forms of improved machinery and appliances at Ootacamund. The encouragement of Government may develop this into an industry economical to the State.

I would further recommend that the most stringent orders be given, since the suggestions for many years past of the highest authorities in England and in India have been of little avail, that the departments of supply, such as medical, commissariat, and ordnance, obtain every article that can possibly be got in India, not demurring to country-produce or country-made articles, because in shape, color, or texture they are not quite equal to European goods.

Trades may be developed in the country by a Government demand, trades which in some cases have languished or disappeared in the face of foreign importations. The British soldier has not that I ever learnt any prescriptive and inalienable right to European supplies when he serves in India.

I cannot. Everything seems to me to be done as economically as possible. An idea has struck me that Government bullocks might be made available for punkha-pulling, but I am not sure that my plan is feasible.

I can suggest none.

No; these items are already cut down to the lowest possible allowance.

Major H. C. Lewes, Commanding
I Battery 1st Brigade, Royal
Artillery.

Major E. T. Hume, Commanding
C Battery C Brigade, Royal Horse
Artillery.

Major W. W. Murdoch, Com-
manding D-A, Royal Horse Artil-
lery.

Major T. M. Havelrigg, Commanding B-3rd, Royal Artillery.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

No.

I cannot pretend that I have any knowledge of the actual cost to Government of all these matters; but it seems quite certain that in a well-organized regiment or battery in India, where there are many long weary hours to pass, and where it is good to find useful easy employment for as many officers and men as possible, economy would result, and extra comfort would be ensured, if the lighting of barracks was under regimental arrangements.

But—

1st, an allowance for purchase of lamps upon arrival in India (they would soon be brought from England with the regiment) must be made; 2ndly, a monthly allowance for their maintenance and hanging and purchase of oil or candles.

The contract for punkha-pulling also always induces lively competition, which shows it must be a "good thing." So again a good commanding officer would probably make a better *bunderbus* if entirely independent than as at present.

The same argument would apply to bedding, and I imagine also to the supply of tea, sugar, salt, rice, &c., whilst a large amount of correspondence would be saved and wholesome competition introduced, and necessarily a number of intermediate issuers and officials of various kinds at present in the employment of Government would be also saved. But, then, on a campaign out of India these things would have to be supplied as in Europe.

Would it not be possible to have barrack furniture supplied by contract to regiments on hire by Native contractors, and save Government the present enormous barrack establishment?

The demand should soon create the supply.

Work punkhas by machinery; tatties might be discontinued in barracks. My experience is that the men do not take the trouble to keep them properly wetted. We get on without them at Sialkot very well.

At the recommendation of the principal veterinary surgeon, 4 inches of sand is ordered to be laid down in permanent stables and 4 inches of arable soil in the open horse standings; these are supplied from a distance at a considerable expense by the Public Works Department, and removed as they become soiled. I offered to keep up the supply myself of *dry earth*, which is all that is necessary, but the principal veterinary surgeon insisted on sand and arable soil respectively. I have my own private carts, and my plan would have cost nothing; but sand is only procurable at a distance, and I don't know "arable" from any other soil; common clean dry earth would of course be equally efficacious.

I can only suggest the larger use of powerful thermantidotes instead of punkhas. I think all beds should be iron; wooden cots are too frequently condemned, and a great source of expense; they are moreover very dirty.

See answer to question 9.

No; and I trust no reduction in the number of lights now allowed will be decided on. Barrack-rooms are cheerless enough without reducing them to their former darkness. I believe every possible economy of labor has been effected in the arrangement of punkhas; and I cannot see how fewer men are to pull the sets. The allotment of barrack furniture and bedding is, if anything, too low already; and I cannot call to mind any article of petty supply to batteries admitting of reduction.

The present means of obtaining grass for Government horses is unsatisfactory, difficult for the grass-cutters and unjust for the land-owners.

The question is one of yearly increasing importance, is constantly brought forward in all parts of India by complaints from the tillers of the soil, and must sooner or later be taken up by Government and provided for. Ultimately, I feel certain there will only be a choice of two ways of meeting our requirements:—

(1) Through the commissariat buying and contracting in the public markets.

(2) By Government taking up tracts of land within reach of cantonments, settling grass-cutters on them, and going in for the cultivation of grass and hay.

The results to be obtained from plan No. 2 (as may be shown from experiments at Bangalore) are so successful, the yield and quality of the grass and hay are so much improved, and the economy over the present system so marked, that should the committee deem it worthy of consideration, I will be glad to lay a paper on it before them.

Major C. F. Nairne, Royal Horse Artillery.

Major P. Fitzgerald Gallwey, Royal Artillery.

Major W. H. Noble, Royal Artillery.

Major W. R. C. Brough, Royal Artillery.

Captain A. D. Anderson, Royal Artillery.

Captain G. C. Bayley, Royal Artillery.

Not as regards barracks and matters connected with them.

18. Could not petty barrack repairs and maintenance of barrack furniture, &c., be provided for regimentally by fixing a maximum allowance within which the officer commanding might sanction expenditure?

Brigadier-General G. G. Arlthol, not, Inspector-General, Royal Artillery for India.

I think this could be done with advantage.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

I do not think this would be found to answer. I think the voluntary contract system the best: *vide* my reply to question 19, paper A.

Colonel G. R. O. Evans, Commanding Royal Artillery, Meerut Division.

I am opposed in the interests of Government to the principle of fixed maximum allowances; for I almost invariably find, try what I may, that the same become normal rates, and rather naturally so; for, let once the maximum allowance be found insufficient for any fixed period and a demand made upon private resources to make good the deficiency, and through dread of any repetition thereof it will cause the maximum to be demanded for all future time. I have no doubt, however, that these repairs, being provided regimentally, would result in a saving.

Colonel H. Strover, Commanding Royal Artillery, Thoyetmyo.

I consider that it might be done by some corps, but that it would be uncertain, depending upon the number and good behaviour of the skilled workmen. The non-commissioned officers might not wish to be employed in this manner.

Colonel A. C. Johnson, Royal Horse Artillery.

I think a large saving to Government would accrue by placing petty barrack repairs and maintenance of barrack furniture in the hands of the officer commanding, even if the maximum allowance limiting the expenditure was very liberal. I also think it would place the assessment of barrack damages on a much more satisfactory footing.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

Yes; and the system would do away with much annoyance, and bring benefit to the men themselves, as most likely barrack damages would then be brought home to the perpetrators.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

No.—The commanding officer has too much to attend to as it is, but besides this would lead to endless disputes on the relief of troops. The present plan is more satisfactory in every way.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

I quite think that a maximum allowance for such services would be a very good move. Many things would be done without, or made to last longer than now, when the demands on the public works and barrack departments are not specifically limited.

Some of the allowance might be paid to commanding officers, who will undertake to get the work done by corps arrangements and so keep the money in the family.

Repairs to furniture might be executed in regimental voluntary workshops to a great extent, if soldiers will work at moderate rates; and whitewashing and similar work not requiring skilled labor might be done by many of the followers, when they can be spared from their proper avocations, who will be glad to earn something to supplement their pay at low rates of daily labor.

Such a system of annual repair allowance would probably enable the discharge of a portion of the subordinate supervising establishments of the departments concerned, as well as the discontinuance of much hired labor.

Major H. C. Lewes, Commanding I Battery 1st Brigade, Royal Artillery.

Yes, with advantage I think, provided uniformity was observed.

Major J. Houghton, 1-8th Brigade, Royal Artillery.

I think so, decidedly. Sappers are as good soldiers and as soldier-like as any in the service, and their time is mainly spent at manual labor. Useful work at any trade is good for a soldier, although his drill should be greatly curtailed by it.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

Yes, certainly they could, and with advantage both to the State and the soldier.

Major W. W. Murdooh, Commanding E-A, Royal Horse Artillery.

Yes; petty barrack repairs and the maintenance of barrack furniture could be so provided for.

Major T. M. Hazelrigg, Commanding E-Brd, Royal Artillery.

No.—Work could hardly be performed satisfactorily.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

It appears to me that the Executive Engineer in charge of the barracks could do this with the assistance of the artificers and workmen in a regiment. But great difficulty would be found in giving and taking over barracks and assessing damages, &c., if the commanding officer received the allowance for maintenance and repairs, as proposed in the question.

Major C. F. Nairne, Royal Horse
Artillery.

Yes; I think it would be a good plan.

Major P. Fitzgerald Gallwey,
Royal Artillery.

I am unable to answer this question; but I can testify that there seems to be a constant state of repair existing in most barracks, and gangs of coolies are constantly employed about them.

Major W. H. Noble, Royal Artillery.

See answer to question 9.

Major W. R. C. Brough, Royal
Artillery.

I do not think so—at least with artillery, where a tradesman is always employed as an artificer; and these artificers already have their hands full.

Captain W. Law, Commanding
C-2nd, Royal Artillery.

The battery wheeler says he could not do it at the rates of the public works department tender, which I got for him to compare, *i.e.*, if he had to provide his own materials, such as glass, &c.

Captain G. C. Bayley, 13-8th,
Royal Artillery.

No doubt such a plan is possible; but I consider it in the highest degree undesirable, at all events as regards the artillery. The commanding officer has already (at all events the commanding officer of a battery) far too many things to look after without undertaking any such addition to his duties.

19. What do you consider to be the results of experience in the working of the medical and hospital system as practised generally in India?

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery, for India.

My opinion is, that a system well adapted to the requirements of a large force at home requires considerable modifications to render it suitable to this country. Even when there is a large force in the field, it is usually so dispersed, that the system of base hospitals can with difficulty be worked. In deciding on a medical and hospital system for India, epidemics of cholera, which unfortunately are so frequent, must be taken into consideration. Dispersion is then the order, not concentration. When a station is attacked, the troops are dispersed; and much depends not only on the zeal and ability of the regimental medical officer, but also on his personal knowledge of the men and the influence he has acquired over them.

Colonel A. H. Murray, Deputy
Adjutant-General, Royal Artillery
in India.

Hardly satisfactory. I have always clung to, and my sympathies are with, the regimental system. Experience of years in all parts of the world assures me that under the old system much good resulted owing to the relations between the soldiers and the medical officers.

I have always encouraged that confidence; and from the perfect harmony which existed between myself and the medical officer, much good has resulted, not only in the prevention of disease, but even in the interests of discipline.

I am of the opinion that we must revert again to a modification of the regimental system as the best; but, as remarked in reply to question 8, under heading Medical, paper A, I think we should have base hospitals where feasible, in view to relieving those with the corps in the field, and to keep the force as mobile as possible.

I have no faith in the plea of those who urge the unification system for the sake of economy. Doubtless in outlay the latter is the cheapest; but I consider that the saving of soldiers and the good effect on health and discipline, as also, as before stated, the prevention of disease, under the old system, would, if it could be calculated, more than counterbalance its increased expense.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

There is no doubt a very considerable saving could be effected by the establishment of general hospitals at large stations, and by lessening the large preponderance of senior medical officers on high pay through introducing a proper proportion of junior officers.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

I am of opinion the present system does not work so well as the old one under which, for the most part, every battery had its own doctor permanently posted to it, who thus became acquainted with every man, his habits and constitution.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

As far as I have seen, late changes have all been in the wrong direction. The doctor, like everybody else in camp or barracks, should be under the commanding officer, and his not being so has hurt discipline.

He should be a component part of a battery. He never was interfered with in his prescriptions for the sick; and that should be the only point in which he could claim exemption from interference.

In three months under the present system, I have had three different medical officers in medical charge of my battery; and on one occasion of relief between two of them they never even saw each other, one went before the other came, although at the time there were many sick. No explanation of cases took place! They certainly have no interest of the old kind in a battery, and the commanding officer has almost nothing to say to them. They make their own arrangements, and are responsible to their own superiors only. There is one marked exception to this rule. The battery commanding officer is now made responsible for all the medical officer's errors of account. Although he (the commanding officer) actually knows nothing about them, they are always submitted under the signature of the medical officer; and by present rules the commanding officer must pay to the medical officer the amount he claims each month on his hospital pay list. *But* if the medical officer is removed, say to England, and an error in *his* pay list be discovered by the pay department, the money is demanded from the battery commanding officer! And then he is required to recover it from the medical officer.

(The artillery divisional prison accounts are also in like manner thrown upon a battery commanding officer, although he has no possible way of knowing whether they are correct or not.)

These are not mere formal responsibilities. At this moment I am out of pocket by a medical officer's error of account; and after two years' tedious correspondence, I have within the last few weeks recovered a retrenchment against the Peshawar Divisional Prison Fund Account, for which I was in no way responsible; but these accounts are ordered to be submitted through *some* battery pay list, and with the above unfair result! These accounts should not pass through a battery commanding officer at all; they should be submitted direct to the pay department, by the properly responsible officers.)

I understand that practically the regimental system is still in force, inasmuch that the one or more medical officers attached to a corps have their separate regimental work in distinct hospitals and wards, but with the disadvantage that they are liable to be sent away on any call when the surgeon-general is obliged by paucity of officers to equalize the establishments, and that the corps they are attached to feel the tie is only a temporary one, and the officers themselves have little interest, beyond the professional honor of doing their duty.

The interior economy of the system is of course best known to the doctors themselves. I can only say that the system itself has many abusers in the army, both amongst the medical profession and outsiders; and hence I conclude the results are not eminently satisfactory. I do not pretend to say what are its weak points, if there are any. What I had chiefly to find fault with was the doolies were too heavy for the men who had to carry them, or the men were not properly trained. The carriage was bad and insufficient as a rule. I heard complaints of want of drugs; and it is a common wish in the army that the old system could be readopted, and medical officers once more become regimental.

The arrangements of base and field hospitals appeared organized on a sound basis; but the medical officers did not appear to have sufficient means at their disposal. Had there been any severe fighting, I am quite sure the means were inadequate, both as regards conveyance, stores, and hands.

I consider that it has proved a failure.

The medical system as at present worked in India may be economical; but it is unpopular with every one concerned, and as far as I can judge does not work well.

It must be bad when medical officers have to be so continually sent from place to place in ordinary peace time.

Not having been in Afghanistan, I cannot say how it worked there.

In cantonments, as far as I know, sick are always treated in regimental hospitals, which system cannot be improved upon. In Afghanistan men, if kept in regimental hospitals, drew rations, so that all but the most trivial cases were sent for treatment to the field hospitals. I did not like the system; but I do not see how it could be improved upon without adding largely to regimental baggage.

It was extravagant, as far as the artillery was concerned. The surgeon in charge of a battery had no medicine to treat even ordinary trivial cases of sickness, and was obliged to send them to the base hospital, where they were under doctors who did not know them or their constitutions, and who were probably hardworked, whilst the battery

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

Major H. C. Lewes, Commanding 1 Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding C Battery C Brigade, Royal Horse Artillery.

Major W. W. Murdoch, Commanding E-A, Royal Horse Artillery.

Major T. M. Hazebigg, Commanding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart, Commanding I-C, Royal Horse Artillery.

surgeon had nothing to do after the morning attendance of those sick.

It might have been different if we had been moving instead of being nearly stationary; but I think the old system more suitable for the English army, and it was far more popular with all ranks, *surgeons included*.

Of course, base hospitals would also be necessary as well as regimental when upon service in the field.

Major C. F. Nairne, Royal Horse Artillery.

Nothing could be better or more liberal than the regimental system as practised in India, and, as far as I saw the base and field hospitals, worked well during the late operations.

As a matter of economy, general hospitals must be better for cantonments; but it is absolutely necessary, both in justice to the men and as a true economy in preventing malingering or shirking, that one medical officer should remain with each corps.

Major P. Fitzgerald Gallwey, Royal Artillery.

Without pretending to know much of the matter, I may say that, from all I have seen and heard, the general hospital system is the only one which can hold for service, and seemed to work well in the last campaign.

Major W. H. Noble, Royal Artillery.

See answer to question 9.

Major W. R. C. Brough, Royal Artillery.

In this country at no station that I have yet served at has the central or general hospital system been in force. Barracks are necessarily scattered; and, from the exposure the sick might have to undergo, and the sudden course of many diseases, I think the system unsuited to the mass of Indian stations. Under the present medical system, an officer of the department is permanently attached to each regiment, who can see to everything being ready for any emergency likely to arise, and who will (that immense benefit to the service) know something of the men. A battery of artillery, though often nearly as strong, is in a measure left to chance. In my own battery some 500 human beings during the recent outbreak of cholera, and when in cholera camp, had their medical officer taken away for duty elsewhere (he was supposed to have joined the battery permanently after a succession of five different medical officers in six months). Fresh cases occurred, and the battery was ordered, and did march, to a camp of then healthy men for the sake of medical attendance. I cannot speak in praise of a system which has apparently left the medical department inefficient from short-handedness. I had not the honor to be present during the recent operations in Afghanistan.

Captain A. D. Anderson, Royal Artillery.

(19, 20.) I believe the field hospitals as compared with the regimental system to be the better of the two, as likely to allow of smaller establishments and followers being taken into the field, to admit of more control over the working of the medical arrangements, and to free the troops themselves from a portion of what I call necessary impediment. All that the fighting line requires are dandies sufficient to carry 2 or 3 per cent., for a day's march or to the field hospital, and their proportion of stretchers to carry men out of action, with a junior medical officer or apothecary to administer the most every-day requirements of medicine, &c., serious cases being moved at once to the field hospital. I would, therefore, attach to each battery one apothecary, giving him a proportion of medicines (to break up into three parts with the different divisions of the battery when separated) and one tent, all packed on ponies or mules. The blot in medical arrangements in India, I submit with all deference, is the doolie. It was a necessary evil of countries without roads. No other country in the world uses it; and in India though roads, railways, and wheeled carriages have now driven it out of the field, still the military stick tenaciously to it. Its accompaniment too, eight bearers to carry one sick man requiring to be fed, guarded, very often themselves doctored and carried, render the system on the line of march an encumbrance of the greatest magnitude. There was nothing on the whole road from Sukkur to Khelat-i-Ghilzai to have prevented any ordinary spring cart ambulance from accompanying the troops. The saving in cost would have been great, while the gain of efficiency by reducing followers and facilitating transport would have been still greater. It struck me also as an outsider that the percentage of sick for whom carriage was provided must have been unnecessarily large; for doolies and dandies were found spare and utilized for all sorts of purposes, while, when filled with sick, the occupants were chiefly followers.

Captain G. C. Bayley, 13-8th, Royal Artillery.

I am inclined to uphold the unification system; but I think it might be improved by permanently (or for a given term of years) attaching one medical officer to each regiment. If the two medical services, British and Indian, could be placed under one head in every station,

brigade, district, or division (in the same way as all the troops, whether British or Native, are subject to the same authority, *i.e.*, that of the general or other officer commanding), a further improvement might be effected. Of course, I am not speaking of medical officers holding civil charges. I also think that, on the outbreak of a war, a *dépôt* for medicines, surgical appliances, &c., should be *at once* formed at the base of operations, from which all the hospitals of the troops employed on that particular expedition might be supplied.

20. State your views as to the efficiency of the arrangements in cantonments and on field service for the transport of the sick both in *personnel* and *matériel*.

Brigadier-General C. G. Arbuthnot, Inspector-General, Royal Artillery for India.

The system of transport for the sick in cantonments must depend to a great extent on the hospital system. With regimental hospitals the doolie is perhaps the best; but with general hospitals one or more ambulances would probably answer better, supplemented however by a few regimental doolies for the immediate conveyance of urgent cases. On field service doolies should be reduced to a minimum; and there should be ambulances, camel *kajwahs*, and mule litters, varying in proportion according to the nature of the country.

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

I have not sufficient experience to venture an opinion on this subject.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

I think the present arrangements admirably suited to the country and its capabilities.

Lieutenant-Colonel J. Ketchen, Royal Artillery.

In cantonments efficient. On field service, as far as my experience (very little) goes, efficient also.

Major Bertie Hobart, Royal Artillery, Military Secretary to His Grace the Governor of Madras.

I think the arrangements for the transport of sick in cantonments are not susceptible of change in view of safe economy. There must always be some transport present with every corps on a parade away from barracks; and it is a question of expense and the nature of the country whether doolies or hospital carts with bullocks are the better. The same reasons must govern the description of ambulance on field service. There must, too, be means of giving sick men air and change in the evenings; and for very serious cases doolies are absolutely necessary, just as they are on service.

The question of doolie-bearers is becoming serious, and must be faced, if the experience in this presidency of the impossibility of making up an establishment on an emergency is to be of any use. Travelling by *palki* having become almost extinct in most parts of India owing to the improvement of country roads and the introduction of railways, trained bearers can rarely be enlisted. To reduce the ordinary establishment of bearers would be fatal. A reserve of trained men whose services could be utilized in camp and cantonment in other ways would be more to the point. The caste-bearers are, to my experience, and as I have always heard, about the most honest hard-workers in the country in each presidency, and are worth their pay.

I do not see that the material now in use, as the result of many years' experience, can be improved for cantonment service, *viz.*, hospital carts and doolies. Out of many proposals for the improvement of the latter for field service, probably one to lighten it, with due regard to protection from heat and rain, and the necessity of its having feet, so that it can be put down with a patient in it or act as a bed if required, may well be adopted.

Yes; I think it would be more efficient were a proportion of the spare horses of cavalry regiments and batteries kept together in a *dépôt* on field service; though I doubt much direct economy, and I doubt any indirect economy, as the horses are not likely to be so well cared for; but it will often be a relief to a corps not to have unnecessary horses and followers present, and there will not be the same commissariat demand for grain, &c., in the front.

I would recommend, however, that such a *dépôt* should be an aggregation of regimental *dépôts* which could be easily separated, and that any equalization of such *dépôts* or transfer from one to the other should only be done by order of superior authorities, *viz.*, the general of cavalry and the colonel commanding the artillery.

Major H. O. Lowes, Commanding 1 Battery 1st Brigade, Royal Artillery.

The arrangements in cantonments seem to meet the case. It is on service where the difficulty is met. In the Bombay presidency there seem to be but few doolie-bearers; and in the last expedition those sent were inexperienced and unfit for the work. Ambulance wagons, such as those given in cantonments, could not have travelled. I am told they are unsatisfactory; the bullocks given to draw them are too small; they get along with great difficulty, and jolt and tire the occupants much.

Major E. T. Hume, Commanding
C Battery C Brigade, Royal Horse
Artillery.

Major W. W. Murdoch, Com-
manding E-A, Royal Horse Artil-
lery.

Major T. M. Hazarigg, Com-
manding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

Major C. F. Nairne, Royal Horse
Artillery.

Major P. Fitzgerald Gallwey,
Royal Artillery.

Major W. H. Noble, Royal Ar-
tillery.

Major W. R. C. Brough, Royal
Artillery.

Captain A. D. Anderson, Royal
Artillery.

Captain G. C. Bayley, 10-8th,
Royal Artillery.

I consider that the arrangements are the best possible both in can-
tonments and in the field.

The present arrangements in cantonments for the transport of the
sick are good and efficient.

Never having been on field service, I prefer to leave suggestions on
this head to be made by those that have.

In cantonments arrangements suffice; in the field ambulance carts
might be used for slight cases; though I imagine that, taking into con-
sideration cost of horses, harness and carts, and pay of drivers, they
would be more expensive than doolies and dandies, and probably not so
comfortable for the sick.

New means of transport are much required. The enormous force of
doolie-bearers (when doolies are the only means of transport) would
cripple the movements of an army anywhere.

Surely suitable spring-vans, with light moveable covering, could be
introduced, at any rate for a large proportion of the sick and wounded.
In Afghanistan I weighed the clothes of the Native followers given
them *in addition to their own clothes*. They weighed 17 lbs. Each man's
lota and cooking things weighed at least 4 lbs. more. We met empty
doolies returning to bring up sick between the Khyber and Dakka *in the*
month of June. These men's bundles filled the doolies. There were six
bearers to each, so that they were carrying at least 126 lbs. (or 1 cwt.
14 lbs.) in addition to the weight of the doolie, besides the clothes they
were wearing, and I suppose their food also.

In cantonments the transport of sick is simple, and is done in the
most economical manner; while on service, so long as doolie-bearers can
be procured, I cannot think there could be a more efficient method de-
vised. When the time arrives that doolie-bearers shall be no longer pro-
curable, mule ambulances should be substituted for service in the hills,
wheeled carts in the plains; but nothing will ever do so well as the doolie
for a wounded man. The supply of the material should be carried on by
the transport train, which I hope will be introduced.

With the varied conditions of service for Indian armies, I don't
think it would be possible to substitute any other system of transport
for the sick for the present doolie carriage; but I think the number of
these articles and the number of kahars allowed (certainly at the com-
mencement) in the late campaign were excessive; and throughout the
operations the kahars were much more employed in other duties (coolie
work in fact) than in their own.

See answer to question 9.

The arrangements for transport of sick in cantonments appears most
efficient; and I cannot suggest a better conveyance than the doolie and
kahars. But all the present moveable column kahars are not necessary;
and a regimental establishment under the medical officer, and which the
commanding officer would have full authority to increase or decrease on
his recommendation, would perhaps be much less costly and equally effi-
cient, making a species of hospital service corps for India. In war time
for the conveyance of convalescents to the base hospitals mule or camel
litters would be useful; but the want of roads bars the employment of
wheeled carriage for this purpose. For actual field-work doolies and
bearers cannot, I do think, be improved on; but for service across the
frontier, hill bearers might be employed. These men would, if suitably
clad, probably stand the exposure and cold well.

See answer to question 19.

The present arrangements appear to be fairly efficient, but I think
some improvement might be made in the following ways—

(a) by having one standard pattern doolie for all India.

(b) by substituting ambulance wagons drawn by horses or mules for
doolies wherever practicable. At present the conveyance of seven sick
or wounded men requires seven doolies and 42 doolie-bearers; but the
work could be done by one ambulance wagon drawn by two animals, and
with one driver and one other attendant. Now two horses or mules and
two Natives would, I should think, be far cheaper than 42 doolie-bearers.
The ambulance would take up far less space along a road than seven
doolies would. At the same time, I am quite aware that doolies could
not be entirely replaced by ambulances, there being many places where
a doolie could go and a wheeled carriage could not.

21. Do you not consider that in field service it would be both more efficient and economical if there were with each division a troop or depôt of spare horses for cavalry and artillery, instead of each cavalry regiment or battery of artillery having a large number of spare horses attached?

Colonel A. H. Murray, Deputy Adjutant-General, Royal Artillery in India.

No; see correspondence attached, marked A.

A

No. 2501K., dated Simla, 22nd May 1879.

From—COLONEL H. K. BURN, c.b., Secretary to the Govt. of India, Military Department,
To—The Adjutant-General in India.

With reference to your letter No. 3219, "R. A. in India," dated the 12th April 1879, and previous correspondence, I am directed to request that, under the orders of His Excellency the Commander-in-Chief, the question may be considered whether, in lieu of having a large proportion of spare horses with batteries and regiments, it might not be more expedient, in future military operations, to limit the number of spare horses with corps and to have a small remount troop or depôt with an army in the field, which could feed the cavalry and artillery as circumstances required, this depôt being either with the field force or in the line of communication, and moving forward as the troops advanced.

No. 5111, dated Simla, 31st May 1879.

Memo. from—COLONEL A. H. MURRAY, Deputy Adjutant-General, Royal Artillery in India,
To—The Adjutant-General in India.

Forwarded for favor of disposal as a general question.

2. As regards the royal artillery, it is absolutely necessary that the number of spare horses at present allowed should at all times remain with batteries for the following reasons:—

- (a) It frequently happens on the march that the services of every available horse are required on an emergency at a moment's notice, for increasing the draught power in difficult places, replacing animals tired out, or injured, &c., &c.; if therefore the spare horses were kept with the remount troops, which would necessarily be in the rear, they would not be available at the very time they were most needed.
- (b) It has been found during the recent campaign that the present number of spare horses is not sufficient.
- (c) It is desirable that the spare horses should be under the care and control of the regimental officers for whose use they are intended, and who are responsible that their batteries are at all times efficient in every particular.
- (d) It is the custom throughout the British army for the spare horses to remain with corps, and it would appear desirable, instead of allotting them to remount troops, to "decentralize" as much as possible, so as to render each unit complete in itself.

3. Under these circumstances, undersigned sees no advantage in the proposed change, but is on the contrary of opinion that the efficiency of batteries would be seriously affected thereby, and Government would be put to the expense of a special establishment of officers, &c., to carry out duties now performed regimentally.

Colonel C. R. O. Evans, Commanding Royal Artillery, Meerut Division.

I do not advocate this change.

In conclusion on this paper, I would beg to state that I am not at all prepared to admit that the cost of the British army in India, considering its paramount importance, is, when compared with other departments in this country, in any way extravagant; while, on the other hand, I cannot attempt to defend the system by which I see a Native regiment officered by five field officers, one captain and one subaltern, as being otherwise than extravagant.

Colonel H. Strovor, Commanding Royal Artillery, Thayetmyo.

I consider that it would be very much better in every way if the horses were kept up to their proper work; that they should be in a troop or depôt for spare horses away from the regiments or batteries.

Colonel A. C. Johnson, Royal Horse Artillery.

Certainly not. As spare horses may be required at a moment's notice to replace casualties in action or from accidents on the march, their place is with the battery; elsewhere they would be useless except as a reserve. The number of spare horses with a battery is by no means excessive.

Lieutenant-Colonel J. Taylor, Commanding Royal Artillery, Mysore Division.

No; I think that the number of spare horses allowed to a battery should always remain with it. They are thus on the spot to supply casualties as they occur; moreover, if the marching should be continuous and severe, you can relieve horses on the first signs of over-fatigue, collar-galls, &c. During the mutinies the battery I served was considerably over its strength in horses, and yet we found use for them all, and would have found ourselves crippled without them.

Lieutenant-Colonel J. Ketchen,
Royal Artillery.

Major H. C. Lowes, Commanding
I Battery 1st Brigade, Royal Artillery.

Major E. T. Hume, Commanding
C Battery C Brigade, Royal Horse
Artillery.

Major W. W. Murdoch, Com-
manding E-A, Royal Horse Artillery.

Major T. M. Havelrigg, Com-
manding E-3rd, Royal Artillery.

Major the Hon'ble A. Stewart,
Commanding I-C, Royal Horse
Artillery.

Major C. F. Nairno, Royal Horse
Artillery.

Major P. Fitzgerald Galloway,
Royal Artillery.

Major W. H. Noble, Royal
Artillery.

No.—It would not be so efficient or so satisfactory as the present plan, nor do I think it would be even as cheap.

Speaking for myself, I should very much prefer having my own spare horses to look after. A reserve of spare horses over and above the recognized number attached to regiments and batteries would undoubtedly be a good thing.

No; I certainly do not consider that such an arrangement would conduce to either greater efficiency or economy.

Yes; I think it would be both more economical and efficient for there to be a depot of spare horses, but they must be trained horses, or they would be little or no good.

No.—The system might work in cavalry; though I should fancy horses would not be so well looked after.

It certainly would not work in artillery, where capabilities of every horse ought to be thoroughly known. Many a bad gall is saved by taking horses out of draught as soon as possible after a rub is observed, and this could not be done unless spare horses were close up to the battery.

Batteries ought to have spare horses without harness, as well as spare horses with harness.

The extra spare horses do hamper a battery, but, if detached, they should have one Native to each of them, and a trustworthy non-commissioned officer of the regiment or battery for every 25 to 30 horses; and although all spare horses of the division might be kept together, under one officer, with farrier, shoeing-smith, &c., still they should belong to the battery or regiment upon whose strength they would be borne to supply casualties. I do not think a general service depot would answer, and I question their remaining spare long. What general officer (short of carriage, &c.) would allow, say, one hundred spare horses to remain idle and eating up his supplies daily?

This seems a suitable place to insert a question, which I do not know if the Commission would deem worthy of consideration.

Would it be possible to pay a retaining-fee to Europeans and Natives for Government to have the call of their horses at a valuation or for hire, under certain conditions, such as these—

- (1) the horse to be passed by a committee as fit for service with artillery or cavalry;
- (2) his descriptive roll to be made out; age, &c., determined;
- (3) to be attached for muster to a regiment or battery;
- (4) to be mustered monthly or quarterly;
- (5) to obtain the retaining-fee at the end of each year upon certificate of commanding officer of regiment to which he was attached for muster, that he was sound and sufficiently well fed to be fit for the service if required at a moment's notice?

I think a similar arrangement might be made for transport animals.

I do not.

The troops or depôts suggested will require additional officers and men not compatible with the economy so freely urged in this paper. Where will spare horses be so well looked after as by those whose chief interest it is to keep them efficient, *viz.*, those who will have to use them? I can see no single advantage in the plan proposed, except a saving of trouble to commanding officers and men of regiments and batteries. Being on leave, I have not gone into detail so much as I could had I had my books of reference around me.

It is perhaps out of the province of this paper to remark that I consider the very liberal free provision of rations made for Native troops and followers during the recent operations unnecessary.

I believe their sense of gratitude (if they have it at all) would have been as much excited if food had been provided at the usual current rate obtainable in the bazaris of India.

The late gift must have been an enormous expense to the State, and was, I believe, an excess of generosity which costs more and is less appreciated than a direct gift like batta for instance.

No.—I prefer to see the horses looked after by their own regiments and batteries. A separate depot would entail an establishment. Moreover, as far as the artillery is concerned, I look upon the number of spare horses allowed on service as excessive, especially in a country like Afghanistan, where field artillery can only be employed very partially as compared with mountain batteries.

Certainly not for artillery.

The spare horses of a battery are required to be upon the spot in case of emergencies, and, moreover, would probably not be so well looked after if they were away from the battery.

Major W. R. C. Brough, Royal Artillery.

Yes, decidedly, if the horses are trained ones; otherwise it would be better to follow the present clumsy and expensive plan of sending unbroken horses to their batteries and let the breaking go on before their services are actually required. I would, on war breaking out, increase the strength of each battery in the front division of the army for service by, say, 5 per cent. of trained horses. A moderate depôt would then suffice with the division; for the increase to the battery would enable relief to be given to a horse on becoming sickly or weak till restored to strength. An immense number of horses renders a battery troublesome to move and difficult to feed; and, as seen in so many cases lately, the extra horses may never be required.

Captain W. Law, Commanding C-2nd, Royal Artillery.

I am not aware that regiments of cavalry have any spare horses attached on service. For batteries of artillery they are absolutely necessary, whether there is a divisional reserve or not. Extra horses must frequently be hooked in and must be with their battery, and there must be horses to replace casualties in teams in the field at once. There should be a reserve for each army-corps or division, but not with the division. The front depôt would in my opinion be the best place for it.

Captain A. D. Anderson, Royal Artillery.

Batteries of artillery could never afford to go into the field without their spare horses. We all know that if a horse gets in any way tender on his shoulder, back, legs, &c., sparing him from work for a few days may save him (this has to be done every day in batteries of artillery), while continuance at work generally ends in a break-down. The experiences of the batteries on the Kandahar Column will amply bear out that without their spare horses they would constantly have required to drop carriages. Had the horse artillery battery on that line been required to make a forced march beyond Khelat-i-Ghilzai, it could not have done so, in spite of all the spare horses they had, owing to general weakness in condition; and no fresh supply could have reached them under two months from that time. That a depôt of spare horses to replace casualties would be an advantage, at the base of operations, to be forwarded on with spare men as required, there can be no doubt. Four months from their start the horse artillery had lost 20 horses, the field batteries; 12 to 15 per battery; but this should not be done at the cost of the establishment of spare horses in battery charge.

In conclusion, I take the liberty of noting a few points that struck me on the march to and from Khelat-i-Ghilzai. One of the last officers at work was the superintendent of the line of communications. I submit he should be the first, with his staff laid down beforehand, to be filled up as rapidly as possible and prepared to endeavour to keep pace with the advance, in road-making, formation of depôts, sanitation of camps, and the numberless duties that fall to his lot.

I believe it would be advisable to select a senior officer, second only to the general officer commanding the force. Anyhow, give him full authority on the line of communications, and place at first a regiment (Native cavalry for choice) at his disposal, to be spread out and extended as the line lengthened, for general protection and military duties, and to be added to from the base as required.

The wear and tear to all, had a road been constructed at first on the Kandahar line, would have been sensibly lessened, while, as it was, each detachment found the road worse than its predecessor had. Every possible arrangement in rear of the advancing main body should, if possible, be left to the officer in charge of the communications, whose duty it would be to supply camp grounds with tradesmen from the locality or from the rear, to fix the *nerick*, to arrange for water-supply by local labor, to attend to sanitary arrangements, to carry out in fact all that he deemed requisite for the safety and comfort of those ahead and those coming on.

The sanitation of camps, I submit, should be part of the line of communications, thus enabling troops to march with the smallest possible establishments of sweepers, beldars, &c., and would, I think, lead to its being better done. An organized establishment of this sort on the line of communication, let it be ever so drawn out, would, I believe, put a stop to what one constantly saw,—officers in their anxiety to get to the front, leaving before properly relieved, making over order books, &c., to any one who would take them; transport officers making over four bare walls and a table and chair, as the assistance to be given to another relieving them of the charge of 40 to 50,000 camels or pack animals; by all of which the good of the service must suffer.

In short, the work done under General Phayre's superintendence should have been commenced and with a will at the outset of the movement.

There is yet another point where power was lost and labor wasted—supplies. It was evident to all that barley, bhosen, firewood, and in

many places flour poured in in abundance at almost every camp ground on the arrival of troops, and that at places where depôts were fixed, as Dadur, Quetta, Gulistan Karez, Chaman and several smaller stations, in fact wherever a Government official with authority to buy was posted, large stores of these supplies were accumulated; still at intermediate points, especially through the Bolan Pass, nothing was to be found and everything had to be carried. A political officer informed me that, had the order been given in time, ample supplies could have been collected at each end of the Bolan Pass, and a very moderate-sized pony or mule train could have dispersed them at the different stations in the pass. What actually happened was this: supplies were plentiful enough at Dadur, but virtually none for the next eight marches to Quetta. Each unit on arrival at Dadur with its full complement of carriage was ordered to indent on the transport for carriage for eight days' supplies, amounting, in the case of one heavy battery, with its escort and followers, to 800 camels. These animals were laden with barley, flour, bhoosa, kirby, and wood. The whole of the last three things were either eaten or wasted in the first three or four days, and a large proportion of the extra carriage camels died before reaching Quetta from neglect and starvation. Exactly the same occurred from Gulistan Karez through the Gwaja Pass, and one could not help the feeling that it seemed a pity officers could not be despatched in advance in our own territory, and with the advanced force if across the frontier, to sweep together the resources of the country, and by a little preparation save all this labor and waste of transport power.

I take the liberty of attaching a paper* from Captain R. Wace,

* *Fide Appendix XXX.*

Royal Artillery, Commanding No. 2 Bombay Mountain Battery, bearing entirely on the organization of the two Bombay mountain batteries. The subject is an important one and deserving of attention, for these two batteries are the only ones in India that approach the German plan of having four guns ready with power of increasing to six. Unfortunately for them, however, the six guns are given them with ammunition, &c., but no men or power to increase number of mules or ponies on outbreak of war; they therefore go on service with four guns, leaving the other two in store or arsenal.

Captain Wace has, I think, treated the subject in a sound and practical way, advocating full establishments of men, with mules for four guns in peace time, and I feel assured that his scheme of some modification of it might, with advantage to the service, as well as economy to the State, be introduced, not only for all the other mountain batteries, but for the whole force of artillery.

Captain Wace's scheme shews an increase of expenditure for the Bombay mountain batteries (but they are admitted to be almost inefficient as regards their establishment); this would be more than counterbalanced by the saving created by putting other mountain batteries on a 4-gun footing in peace time. They now have six.

Decidedly so, *provided, and only provided*, that this depôt of spare horses was sufficiently large and was certain to be forthcoming, say, shortly after the commencement of a war. I fear, however, that it would not be forthcoming in time. But in any case there must be some spare horses with every mounted corps. If the proposed horse depôt were formed, it might relieve mounted corps of the care of sick or lame horses which might be transferred to it from time to time, either in exchange for serviceable animals or not, as the case might be. See Wolseley's Soldier's Pocket-book for further details on this subject.

E.

SAPPERS AND MINERS, ROYAL ENGINEERS IN INDIA, MILITARY WORKS, &c.

1. Is the present organization of the corps of sappers and miners in your presidency such as to meet the requirements of peace and war?

Major-General F. R. Monnells,*
C.B., R.E.

I do not think that the Bengal sappers are adequate to the duties expected of them, and for which they should be efficient, even in peace, much less for war.

Major-General A. Fraser, R.E.

The present organization of the corps of sappers and miners is not such as *best* to meet the requirements of peace and war, except as regards the class of Natives recruited.

It does not thoroughly meet the requirements of peace and war.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Colonel the Hon'ble C. J. Mer-
rivan, R.E., C.S.I., Acting Secretary
to the Government of Bombay,
Public Works Department.

I should say most certainly not.

* These answers are supplementary to those of Captain North, R.E.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

Decidedly not so.

In October 1870 a new organization was given to the corps of Bombay sappers and miners in G. G. O. No. 692 of 1870.

In this it was distinctly laid down that all the officers, of whom there were to be ten, were to be royal engineer officers. This has not as yet (nine years afterwards) been carried out, and staff corps officers are still attached.

In 1873 a still more extraordinary G. G. O. (No. 1235-51E.-G. of 1871) appeared, in which it was stated that only three royal engineer officers were to be employed on military duty. The effect of this was that in 1872, when some officers wished to remain with the corps, making the number up to five in place of ten, two were taken away on application of the Secretary, Public Works Department, who pointed out this G. G. O., thus leaving only three royal engineer officers with the corps. But it may be added that the organization of the G. G. O. of October 1870 is of itself most insufficient, and that it by no means supplies the wants of the corps, which has been reduced in numerical strength far below all efficiency. It has no equipment of any sort, and even all tools and plant were by circular No. 222 of 10th January 1877 taken away, except barely company entrenching tools. All plant for educational purposes, as scaling ladders, mining cases, pontoons, rafts, &c., were by this circular abolished, and the corps reduced to a skeleton pioneer battalion.

* Tables I to VIII, marked R, will give a small idea of what is required of purely training plant; while paper II, marked S, will give a detail of what is required to make the corps efficient even for peace.

I am quite unable to give the reasons why such heavy retrenchments were introduced into the Bombay corps which was even then the smallest numerically, and which had been proved to be numerically inefficient for war; for in Persia and Abyssinia the Bombay companies had to be supplemented by companies from the Madras corps, out of which presidency no other troops were sent. These companies, it must be mentioned, spoke a different language and possessed a totally different organization.

The starved condition of the Bombay corps will, I trust, receive the special attention of the Committee.

There are only five companies with but 80 privates in each: of these, one is practically a dépôt and recruit company. There are no pontoons, no train, no telegraph, not a wagon nor a horse, nor are there any tools or plant for training purposes. As regards men, a copy of letter No. 995A. of 1879, just forwarded to the Adjutant General, will give an idea of the condition to which the corps at head-quarters is reduced after sending merely two companies on service.

Finally, though organized on the model of the Bengal sappers, the training staff has been cut down far below the practical limit of efficiency. In Bengal there are four staff and four assistant staff officers; these were reduced in Bombay to two staff and two assistant staff. It is absolutely necessary, in order to carry on work properly, to have at least three staff and two assistant instructors.

The above does not include the instructor of army signalling, &c., as he is detached at present, and has special duties not wholly connected with the corps proper, but usually with the army.

Extract from the Proceedings of the Government of India, in the Public Works Department,
No. 1235-51 E. G., dated Simla, 28th October 1871.

Read again—

From Secretary of State, No. 35 of 19th March 1868, and enclosures.

To Military Department, No. 139 E. G., dated 24th January 1870.

From " " " 50 " 3rd May 1870.

To " " " 699 E. G., " 14th June 1870.

From " " " 606 " 20th June 1870.

From " " " 1255 " 30th January 1871.

OBSERVATIONS.—To give effect to the conclusions arrived at in these papers, the Governor General in Council in this department considers the following arrangements will be necessary.

1. To inform the Governments of Madras and Bombay that henceforth the proportions of the royal engineer officers assigned to those presidencies for all duties will be one battalion each, leaving for the provinces under the Government of India five battalions.

The distribution of any future increase, and in excess of the normal strength of the seven battalions of the old Indian establishment, will be made in the same general proportion, subject to any revisions that from time to time circumstances may show to be suitable.

2. That the proportion of royal engineer officers for military duty in the several presidencies will be as stated by the Military Department, *viz.*, seventeen for Bengal, five in Madras and three in Bombay.

3. That the rules under which officers will do duty with the sappers and miners on first coming to India will be determined in the Military Department.

4. That the proportion of officers for the survey and telegraph departments may provisionally be taken at their present numbers, *viz.*, 23 and 5, respectively.

5. That, as a rule, all other officers will be considered available for duty in the Public Works Department, subject to the conditions (1) that their services have in the first place been made over to the Public Works Department; and (2) they will be liable to be recalled to military duty at any time on requirement by the Military Department.

6. That royal engineer officers will continue to obtain leave to Europe and in India in all respects as heretofore, but that in all cases in which they give up their appointments on taking leave, or by absence beyond the limit of time during which their appointments can be retained, a report shall be made to the Government of India, in the Public Works Department, of the fact, and state by the Government or Administration under which the officer was serving, or by which the leave was given.

7. That officers returning from leave who have lost their appointments as aforesaid shall be held to be at the disposal of the Government of India, and that if the Government or Administration under which such officer was before serving desires to obtain his service again on his return to duty, an application to that effect should be made to the Government of India, in the Public Works Department, before such return.

8. That the distribution of the proportion of royal engineer officers to the several provinces will be made as far as possible so as to preserve the proportion of the ranks given by the regimental organization, and to interfere as little as possible with the employment of the officers of the old Indian battalion within the presidencies to which they were attached under the old organization.

9. That the lists of officers of the royal engineers of the old Indian establishment should henceforth appear in the Indian Army Lists in the form adopted for the cadres of the old Indian army, but that some distinction should be made to show the officers serving in the presidency and those serving elsewhere; also, that the effective lists of royal engineer officers in the Army List should only contain the royal engineer officers actually at the disposal of the Local Government, or the Government of India in the case of the Bengal Army List, including those on leave who have not forfeited their appointments. All royal engineers, not specially posted to a province, to appear as under the Government of India.

10. That for purposes of discipline, only all royal engineer officers under the Governments of Madras and Bombay should be held to be under the orders of the Commander-in-Chief of those presidencies, and all others under the orders of the Commander-in-Chief in India.

As regards promotion and pension, and other like matters, the present orders will make no changes.

11. That royal engineer officers, returning to India from England, will receive orders from the Secretary of State as to the port to which they should go to report themselves for duty.

12. That the Secretary of State be informed, from time to time, of the strength of the officers in the several presidencies, and advised as to the numbers of the several ranks wanting to complete the proper proportion allowed to each, and be requested so to issue his orders to officers returning to India, and so to distribute the officers coming to India, for the first time as to adjust the proper proportions as nearly as may be, reasonable attention being given to any claim made by the officers of the old Indian battalions to return to their former presidencies.

13. That the Government of India will not in any way interfere with the distribution of the officers assigned for duty under the Governments of Madras and Bombay, and will only so far control the distribution of the officers in other provinces as is now customary in respect to Public Works officers generally.

14. That, as a rule, all applications for the services of royal engineer officers serving in India for duties other than purely military duties, which will be dealt with exclusively in the Military Department, should be made to, and dealt with by, the Government of India, in the Public Works Department; this rule will still apply, and the Public Works Department will make any needful reference to the Military Department for the purpose of making the officers available to the department that has need of his services. The same rule should be observed by the Governments of Madras and Bombay so far as it becomes applicable.

15. That all departments other than the Military Department, obtaining the services of royal engineer officers, shall comply with the rules thus laid down, so far as they are applicable, and that the Military Department be requested to keep the Public Works Department informed of the number of officers, &c., doing military duty, or not specially placed under any other department in the several presidencies, and of the dates of departure on, and return from, leave of such officer, so that the registers in the Public Works Department may be as complete as possible.

16. That hereafter all orders relating to the subject referred to above will issue from the Public Works Department, including orders for transfer from one presidency or province to another.

ORDER.—Ordered, that copies of this Resolution be forwarded to the Departments, Governments, and Administrations marginally noted; and to the Director General of Telegraphs for information and guidance.

Military Department.

Home "

Foreign "

Governments of Madras, Bombay, Bengal, North-

Western Provinces, and the Punjab.

Chief Commissioners, British Burma, Oudh, Central

Provinces, Mysore and Coorg.

Resident at Hyderabad.

Agents to the Governor-General for Central India and

Rajpootana.

Superintendent of Port Blair.

No. 995A., dated Karkce, 17th September 1879.

From—The Officer Commanding Sappers and Miners,

To—The Station Staff Officer, Karkce.

I have the honor to bring to your notice the fact that, after the departure of the torpedo company for sub-marine mining practice at Bombay and Kurrachee, there will be considerable difficulty in carrying out the duties of the corps of sappers and miners (guards, line takers, &c.)

On the departure of the torpedo company, the number of privates of the corps for duty will be 23, exclusive of 41 recruits, who will not be fit for transfer to the ranks until April 1880.

Of the 22 privates there are—

4 lance navies (1 permanent store orderly);

1 armourer (permanent duty).

The number of privates required for daily duty, if reduced to the lowest possible, is as may be seen from the accompanying table 15; and allowing for 2 men permanently employed, sick, &c., it will be seen that nearly all the privates of the corps be on duty daily; also, there will not be a single man available for workshops, &c.

I feel it my duty, again, most respectfully to bring to the notice of His Excellency the impoverished state of the corps as regards men. The company at Aden has only 15 privates instead of 80. There has been a good number of deaths among the men in the companies on service, and, as above shown, the company at head-quarters will be reduced on the departure of the torpedo company to such a state, that it will not be able to carry out the guard duties, &c., or to provide a single man for duty in the corps workshops.

I would further beg to point out that there will not be sufficient men to protect the lines with the families of those who are on service, both Native and European, were such a step rendered necessary.

Under the above circumstances, I trust that His Excellency the Commander-in-Chief will be pleased to approve of the torpedo company being detained until the return of some of the companies from field service.

HER MAJESTY'S BOMBAY SAPPERS AND MINERS.

Table showing the details of guards, &c.

Description.					Privates.	Remarks.
Quarter-guard	...	...	...	...	6	
Pontoon-guard	...	...	...	...	3	
Talkeedars	...	...	...	...	3	
Commanding officer's orderly	...	...	...	...	1	
Office orderly	...	...	...	...	1	
Post and Order Book orderly	...	...	...	...	1	
TOTAL					15	

(Sd.) J. HILLS, Colonel, R.E.,

Commanding Sappers and Miners.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

No. I think in peace they should be capable of being used in the construction of military works of all descriptions, and in war they should be something more than mere pioneer companies trained to construct field-works.

Lieutenant-Colonel W. H. Barton,
R.E.

The present organization is not fit for peace or for war.

Captain W. North, R.E.

No; the companies are too small in Native strength. There is no provision for securing properly qualified officers; and though a sufficient number of British non-commissioned officers are obtained, a large proportion of them are inefficient; and there is no transport for engineer equipment.

Captain H. H. Cole, R.E., Executive Engineer.

Viewed as a scientific branch of the army, I do not think that the Native sappers and miners are all that might be trained and made usefully available both in war and peace time. There is a want of skilled labor among combatants, such as we enlist in England, and such as is to be found in force in continental armies. For purposes of earthworks of a rude kind, for military roads, and clearing lines of communication, the Native sapper is no doubt of excellent material—not better, however, than the men enlisted in pioneer regiments. For pontooning, the Native sappers are easily taught to handle boats and pontoon; but in this respect I am unaware of their possessing any special qualifications not found among strong and athletic Natives of the fighting classes enlisted in other corps. For distinctly scientific army work, I cannot but think that no sufficient training is given to Native sappers and miners. In England men are enlisted from the artisan classes, and have, as a rule, special qualifications, such as those of a carpenter, mason, smith or clerk. In India the fighting Native has no such qualifications, and can have none except through special training. It would, I believe, be acceptable to Natives to be taught the rudiments of carpentry, masonry, and how to repair their tools. They could, I think, be made to feel that such work was an honorable adjunct to their fighting use.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal Sappers
and Miners.

The corps of sappers and miners up to 1857 was composed of 12 companies, with 2 companies of local or subsidiary sappers stationed at Darjeeling = 14 companies in all. Since then the frontier has been considerably extended towards the north-west, and 12 companies of 120 private sappers in time of peace, increased to 150 in time of war, would not be a man too many. Sappers can and should be usefully employed

in various ways during peace, especially on roads in and leading to hill stations, where hired labor costs much and cannot be obtained at any price.

2. If not, what changes in its constitution and organization are, in your opinion, desirable, bearing in mind that in peace the corps should be at a minimum strength, but with the means of expansion for war?

Major-General F. B. Maunsell,
C.B., D.E.

The general organization is sound: a few detail improvements are wanted.

Assuming the present strength efficient for peace, the dépôt company should be able to supply casualties and accidental requirements, for which purpose it should be about 150 strong.

Note.—I would bring to notice here that one of the formerly existing ten companies was formed into a dépôt company in 1873, which reduced the number but increased their efficiency. The Madras corps has a dépôt company besides the ten service companies.

I would have some of the companies on war footing, or the means at hand to bring them to that at once. My aim has ever been to render my sappers ready to take the field at once without any of those changes which injure efficiency.

Major-General A. Fraser, D.E.

The changes in its constitution and organization which I should recommend are detailed below in the answers to subsequent questions. The total strength that should be maintained both in peace and war is, according to my views, 1,000 rank and file, exclusive of non-commissioned officers for Bengal only, of which 200 (or such number as constitute the ordinary strength with the colors or in reserve of two complete companies of royal engineers) should be Europeans and 800 Natives. For Madras and Bombay probably a smaller number would suffice.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

The corps is at present on a peace footing. During war it would be perhaps better to raise the strength of a company to 150 rank and file; and, before the commencement of another war, special companies should be added for the pontoon train, telegraph train, and sub-marine mining.

Colonel the Hon'ble C. J. Merri-
man, C.S.I., Acting Secretary to
the Government of Bombay, Pub-
lic Works Department.

I would increase the strength and employ the corps on public works, military or civil, or both, in time of peace.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

The organization now required is detailed in paper II,* marked S, which gives the necessary establishment for peace.

Every attempt has been made to keep the *personnel* and *matériel* within the bounds of economy; but as it is impossible to train a sapper in a day, a greater number of them must be kept available than in other branches of the service. It greatly depends on the assistance the Public Works Department give in employing companies, whether their cost will be great or small. An essential point is to change the name of the corps to "Indian Royal Engineers."

Briefly, the peace establishment should be—

- | | | |
|---|--|--|
| 1 | dépôt company. | |
| 1 | torpedo | " |
| 1 | telegraph | " |
| 1 | pontoon | " |
| 1 | field service | " |
| | | } These three to be kept in a state of
readiness for immediate service. |
| 3 | companies under instruction at head-quarters. | |
| 3 | " detached at Aden, Public Works Department, &c. | |
| 1 | 43rd company, Royal Engineers. | |
| | Total 11 Native and 1 skeleton company, Royal Engineers. | |
| | Head-quarter staff of "Bombay Royal Engineers"— | |
| 1 | commanding officer, colonel or lieutenant-colonel. | |
| 1 | 2nd commanding officer, major commanding 43rd company. | |
| 1 | adjutant. | |
| 1 | quarter-master and superintendent of park and train. | |
| 1 | inspector of field works, &c. | |
| 1 | " army signalling. | |
| 2 | assistant instructors. | |
| 9 | company officers to ordinary companies. | |
| 3 | attached to detached companies. | |
| 3 | officers to torpedo company. | |
| | Total 23 officers. | |

* Not reprinted.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant-Colonel W. H. Burton, R.E.

Captain W. North, R.E.

Captain H. H. Cole, R.E.,
Executive Engineer.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal Sappers
and Miners.

Major-General F. R. Maunsell,
C.E., R.E.

Major-General A. Fraser, R.E.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

In my opinion, each company of sappers and miners (putting on one side the special companies for pontoons and telegraph) should be a fully-officered company of artificers and miners. The men who in India sink wells and in this country make *karezes* must be born miners.

I would substitute skilled artificers for nearly all the privates in each of nine companies, would abolish nearly all the so-called head-quarter artificer maistris, reduce the numbers in nine companies, and substitute a sub-marine mining company for one of the present ten companies.

Instead of the present system, which only provides four properly qualified officers between the ten companies, there should be two officers per company, permanently attached, with sufficient staff pay.

I would obtain the greater part of the British non-commissioned officers by volunteering from British regiments in India.

If I saw how the corps could be expanded in war time, I would be content with the present numbers of Natives in peace time.

Twelve trained and good mules per company, with a mule-driver to each, are most urgently required, both in peace and war.

In times of peace, besides drill, field-works, telegraphing, pontooning, bridge-making, road-making, signalling, &c., much useful work could be executed to the benefit of the State in public works by the Native corps of sappers and miners. I think that it would not be impossible to enlist a certain proportion of carpenters, smiths, masons, painters, &c., or to instruct the ordinary Native sappers in the rudimentary duties of such trades. I would strongly recommend that 50 per cent. of the men in each company should have some special training to fit them for executing in all their details such works as—

field fortifications,
roads,
telegraph lines,
trestle and other bridges;
huts for troops,
repairs to boats and pontoons;

whilst the remainder of the company should be kept specially to ordinary duties.

The minimum strength then would be 1,410 private sappers in peace, increased to 1,800 private sappers in time of war.

3. As it is obviously impossible to maintain an army always on a war footing, what should be the strength of a company of sappers on a peace establishment?

vide answer 2.

The Native companies should be maintained at their full war strength in time of peace, meeting the necessity for economy by keeping entire companies on the reserve list as detailed further on rather than by retaining the full number of skeleton companies in time of peace and expanding them when war broke out.

The strength should be—

1 officer, royal engineers.	1 paknali.
1 subadar.	1 carpenter.
1 jemadar.	1 smith.
4 havildars.	1 hammerman.
8 nakls.	1 bellows-boy.
2 buglers.	1 non-commissioned officer,
105 privates.	royal engineers.
1 regimental lascar.	

The pontoon company should be stronger than the above; otherwise, after guards and sick are deducted, there will not be enough men to handle the pontoon gear efficiently. The telegraph and pontoon train companies should each have—

2 sergeants.
2 corporals.
2 2nd corporals.

The strength of a sapper company may at first sight appear too great, but it can be well commanded by one British officer. Nearly the same number of Native officers and non-commissioned officers is given to weaker companies of Native infantry. If a company were weaker, there would be very few men for work after deducting those required for guards and the sick in hospital. This would be specially felt when

sappers are employed (as they often are) in road-making through unhealthy places. For instance, on the Tambracherry Ghât two companies of sappers could at last only give one man for work per diem between them.

I retain the hammerman and bellows-boy on the peace establishment, as they cost very little and do work which would otherwise occupy the time of sappers; moreover, hammermen and bellows-boys sometimes develop into excellent sappers.

One hundred.

Colonel the Hon'ble C. J. Merri-
man, O.S.I., Acting Secretary to
the Government of Bombay, Public
Works Department.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

The peace establishment of a company should be at head-quarters—

- 1 company officer.
- 3 non-commissioned officers, Europeans.
- 1 subadar.
- 1 jemadar.
- 5 havildars.
- 7 naiks.
- 8 lance naiks.
- 2 buglers.
- 100 privates.
- 5 artificers.

If the company is detached, another officer and some more privates should be added especially for Public Works Department works.

Lieutenant-Colonel W. Dickens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

I think all companies should be kept up on a war footing; they might profitably be employed upon public works during peace. The establishment should be about 150 rank and file.

Lieutenant-Colonel W. H. Bur-
ton, R.E.

The company for sub-marine mining service, I think, should be of the following strength and trades:—

	<i>Sappers.</i>
Native officers,	
Native non-commissioned officers,	
buglers,	10 blacksmiths.
puckallies,	10 hammermen.
sergeants,	10 boat-builders.
corporals, and	4 carpenters.
2nd corporals,	1 locksmith.
as at present.	70 boatmen.

Total ... 105

The remaining nine companies to be each composed as follows:—

	<i>Sappers.</i>
Native officers,	
Native non-commissioned officers,	
buglers,	12 bricklayers.
puckallies,	6 stonemasons.
sergeants,	6 blacksmiths.
corporals, and	3 locksmiths.
2nd corporals,	6 hammermen.
as at present.	6 carpenters.
	3 coopers.
	3 chucklers.
	3 lime-burners.
	3 brick-makers.
	3 wheelers.
	14 excavators.

Total ... 68

Captain W. North, R.E.

- 2 British officers.
- 6 British non-commissioned officers.
- 2 Native officers.
- 4 havildars.
- 8 naiks.
- 2 buglers.
- 100 sepoy.
- 12 drivers.
- 8 artificers.
- 12 mules.

Captain J. Dundas, R.E.

For the reasons stated under (35), I think the sappers should always be on a war footing. The present strength of a company is, I believe, 100 men, and this appears sufficient.

Captain H. H. Cole, R.E., Execu-
tive Engineer.

Excepting for mere fighting purposes, the company should be composed in peace time of as large a number of skilled men as in time of war. In peace I would have 150 men, out of which 75 should be artisans or have some knowledge of artisan work.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal Sappers
and Miners.

Vide answer 2.

4. As it is obviously impossible to maintain an army always on a war footing, what should be the strength of a company of sappers on a war establishment?

Major-General F. R. Manssell,
C.B., R.E.

The war establishment may be taken as 150; 180 would not be too many for the duties.

Major-General A. Fraser, R.E.

The war strength of a company of Native sappers should be 100 rank and file, exclusive of non-commissioned officers.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

It should be—

3 officers, royal engineers.	1 regimental lascar.
1 subadar.	1 pakali.
1 jemadar.	1 carpenter.
4 havildars.	1 smith.
10 naiks.	2 non-commissioned officers,
2 buglers.	royal engineers.
128 privates.	

Or if likely to have trench-work or working parties of British infantry—

2 sergeants.
2 corporals.
2 2nd corporals.

I omit all mention of the special companies, as much depends on the duty on which they would be employed and on the animals given for draught; but I would deprecate army foot-officers with cavalry swords, mounting drivers on saddles, and other fancies that have crept into nearly all the schemes for telegraph and pontoon trains, though of course line inspectors should be mounted and armed as horsemen.

One hundred and fifty.

Colonel the Hon'ble C. J. Merriman, C.S.I., Acting Secretary
to the Government of Bombay,
Public Works Department.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

The war establishment should be as follows:—

3 officers.	2 buglers.
6 European non-commissioned officers.	140 privates.
1 subadar.	8 artificers.
1 jemadar.	6 drivers.
5 havildars.	10 horses.
7 naiks.	1 wagon.
8 lance naiks.	10 doolie-walas.
	bheesties.

It is necessary on a war footing to increase the number of privates, for it must be borne in mind that the details of guards, fatigue duties, sick, &c., have a very much greater proportionate effect on a small number than on a large, and more work would be obtained from two companies of 140 each than from three of 100. Thirty to forty men will always be unavailable for work out of each company; this reduces the small company to from 50 to 60; whereas in the company 140 strong there would still remain 100 for work.

At Cyprus, with the numerically small company strength of 80 men, both at Larnaka and Dalli, the working parties were so reduced in numbers as to be of small use; for a fortnight at one time the average daily party was only 15 men.

The officer in charge of the company in his final reports states: "I beg to bring to the notice of the commandant the following points connected with the organization of the company; first, strength of company. At present a company is only 94 strong of all ranks. The consequence is that if sections are ordered on detachment, they are so weak that they cannot carry out work properly, and whenever sickness breaks out to any extent, the whole company becomes practically useless; men are always required for guards; there are defaulters, &c., and the working parties become too small for efficient work. I would suggest that the strength of the company be increased to 175 non-commissioned officers and file as in the English service, the non-commissioned officers being increased in proportion."

Vide answer 3.

The sub-marine mining company to be of same strength in war as in peace.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant-Colonel W. H. Burton,
R.E.

The remaining nine companies to be each increased in strength by 40 excavators.

Captain W. North, R.E.

3 officers.	2 buglers.
6 British non-commissioned officers.	150 sepoy.
2 Native officers.	12 drivers.
6 havildars.	9 artificers.
12 naiks.	12 mules.

I wish to repeat that I don't see how this expansion is practicable.

Captain H. H. Cole, R.E., Executive Engineer.

I would increase the company to 200, making the additional 50 merely an addition to the fighting capacity.

Captain W. T. Stuart, Interpreter and Quarter-Master, Bengal Sappers and Miners.

Vide answer 2.

5. What should be the number of royal engineer officers per company, and how distributed?

Major-General A. Fraser, R.E.

To each company one officer should be posted. The corps of royal (Bengal) engineers is morihund, and as officers would have to be obtained for the Bengal sappers and miners from the imperial list, the arrangements must be made with that view; and it is a question whether we might not revert somewhat to the old plan of sappers and pioneers, or say now royal engineers and sappers, the Europeans being the royal engineers officered from the royal engineers, and the sappers the Natives officered by staff corps or other officers from the infantry branch of the army having knowledge of the language.

The quarter-master should be of the latter class, the officer commanding a field officer, and the adjutant a subaltern of royal engineers. The Native companies might be commanded by either a captain or a subaltern in equal numbers of each grade.

Colonel H. N. D. Prendergast, R.E., Commandant, "Queen's Own" Sappers and Miners, Madras.

There should be a captain or senior subaltern, royal engineers, in command of a company, and a lieutenant, royal engineers, to each half-company, with a major, royal engineers, in command of a detachment of two companies on war establishment; but one officer, royal engineers, is enough in time of peace.

One in time of peace; two in time of war.

Colonel the Hon'ble C. J. Merriam, C.S.I., Acting Secretary to the Governor of Bombay, Public Works Department.

At head-quarters, one royal engineer officer per company is sufficient. Two ought to be posted to each detached company as on public works department, &c., and three on service.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

One major and two subalterns in peace, three subalterns in war, one of these subalterns being put in special charge of the equipment and necessary carriage.

Lieutenant-Colonel W. Hichens, Commanding Royal Engineers, Southern Afghanistan Field Force.

Captains appear to be neglected in this proposal, but they would in war time find their natural positions as adjutant, majors of brigade, and in charge of field and siege parks.

Lieutenant-Colonel D. Limond, R.E.

Each company on service should, in my opinion, have at least two officers attached. If sapper officers are appointed assistant field engineers, there should be three.

Lieutenant-Colonel W. H. Burton, R.E.

- 1 commandant, colonel or lieutenant-colonel, royal engineers.
- 1 second-in-command, major, royal engineers.
- 1 instructor in field works and army signalling, captain or lieutenant, royal engineers.
- 1 adjutant, captain, royal engineer.
- 1 quarter-master and interpreter, royal engineer or staff corps officer.
- European non-commissioned officers as at present.

To each of nine companies in peace—

- 1 captain, royal engineers.
- 1 lieutenant, royal engineers.

In war—

- 1 captain, royal engineers.
- 3 lieutenants, royal engineers.

To sub-marine mining company in peace and war—

- 1 captain, royal engineers.
- 3 lieutenants, royal engineers.

One of these officers to be instructor in sub-marine mining. None of the above appointments or positions to be tenable for more than five years.

Captain W. North, R.E.

At least three in war time, one to command and one to each half-company.

For peace time it would be satisfactory if we even had two permanently per company.

Captain J. Dundas, R.E.

One officer per company seems sufficient. In war time as many officers as may be required are attached to a force, and the sappers should work with, and under, the field engineers.

Captain H. H. Cole, R.E., Executive Engineer.

One major for general command and supervision; one captain and two subalterns for ordinary duties and instruction in war time; and one captain and one subaltern in peace time.

Captain W. T. Stuart, Interpreter and Quarter-Master, Bengal Sappers and Miners.

Two royal engineer officers per company would be ample,—one as commandant, the other as paid duty officer.

6. Is the strength of the corps in proportion to that of the army to which it belongs?

Major-General F. R. Maunsell, C.B., R.E.

From a treatise before me, I note the following proportion of sappers to infantry:—

Bengal	...	...	...	1	to	62
Madras	...	...	...	1	"	27
Bombay	...	...	...	1	"	57
England	...	...	...	1	"	25
Germany	...	...	...	1	"	28
Italy	...	...	...	1	"	24
Russia	...	...	...	1	"	32
Austria	...	...	...	1	"	33

So that Bengal has about one-third the proportion of other armies, while Madras is about par.

The constant demand for sappers, eight of the nine companies constituting its effective strength being now detached (and the remaining at head-quarters being shattered from detached duty), is the plainest evidence of their deficiency; and this demand is one tending to a decrease. I believe, indeed, that this system can only result in rendering the corps totally inefficient.

I believe that the sappers might be trebled and not be too many, and that, if doubled, they would not be out of proportion if the infantry were reduced to 50,000 from 77,000.

I believe that an increase in this sense would be economical, because the staff sufficient for the corps and for the companies would suffice for a considerably increased number of workmen.

The sappers on detached works in peace and on service are never enough. A company on service seldom turns out more than between forty and fifty men. What with guards, sick, specially employed, and casualties when 200 would well be utilized. There is an enormous difference between the work of trained and untrained men, and the want takes four or five times the number of line men, and some times they cannot do it owing to difficulties requiring skilled labor.

Again, sappers are good as fighting men; they have ever distinguished themselves in front of the enemy.

Major-General A. Fraser, R.E.

I think that the strength I have suggested would be suitable for the work likely to be required under the present conditions of the service.

Colonel H. N. D. Prendergast, R.E., Commandant, "Queen's Own" Sappers and Miners, Madras.

The strength is less than that which would be allotted to a similar force of the British or German army. A British army-corps, containing 21 battalions, has 1,207 engineers, which is about the strength of the corps of "Queen's Own" Sappers and Miners, although there are 49 battalions in Madras.

I should say most certainly not.

Colonel the Hon'ble C. J. Merriam, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

No; quite out of all proportion. In the Prussian army, before the war of 1870-71, the proportion of engineers to infantry was 1 to 21. Since the lessons of the war it has become 1 to 10; and this does not include certain special branches, as the new railway battalion, &c.

In an English army-corps the proportion is 896 non-commissioned officers and men, engineers to 21, 924 non-commissioned officers and men, infantry; but adding the drivers, &c., it is 1,238 to 22,386, or either 1 in 24½ or 1 in 18, or, say roughly, 900 for 21 battalions.

In Bombay the proportion is 1 to 61 infantry, or 480 to 29,334; leaving out torpedo company and dépôt, the proposed number is 1,100 to 30 battalions.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

Lieutenant-Colonel W. Hiehens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant-Colonel D. Limond,
R.E.

Lieutenant-Colonel W.H. Burton,
R.E.

Captain W. North, R.E.

Captain J. Dundas, R.E.

Captain W. H. Pierson, R.E.

Captain H. H. Cole, R.E., Execu-
tive Engineer.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal
Sappers and Miners.

7. What have been the usual peace stations of the companies within the last five years ?

Major-General F. B. Maunsell,
O.B., R.E.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

Lieutenant-Colonel D. Limond,
R.E.

Lieutenant-Colonel W. H. Burton,
R.E.

Captain W. North, R.E.

Captain H. H. Cole, R.E., Exe-
cutive Engineer.

I don't know; the proper strength is two companies sappers and miners to each division.

Yes; for India, sappers are very easily called upon to perform more than pioneer duties.

Both that of royal engineers and of sappers and miners are.

It is altogether below the proportion maintained in all other armies that I know of. Taking the infantry of an army as represented by 1, the usual proportion of sappers would seem to be $\frac{1}{21}$. In this army it is about $\frac{1}{77}$.

So far as the establishment of Native sappers is concerned, I think the strength is not excessive, and that, aided as the sappers would be when necessary by pioneer regiments, it is sufficient. The strength of royal engineer officers in India is more than sufficient for military purposes.

The proportion of engineers laid down in the English army is one company to each division, and one company, one pontoon train and one telegraph troop to each army-corps, say six companies to every twenty-one line regiments. The strength of the sappers and miners in Bengal is below this standard, and might be increased with advantage.

I do not think that the number of companies are distributed equally over the three present armies. There are five companies in the Bombay sappers, ten in the Bengal sappers, ten in the Madras sappers. It would, I think, be better to have a battalion of six companies for each *corps d'armée* of 80,000 men.

It is under the ordinary strength of other armies as regards Bengal.

Besides whole companies at the stations mentioned by Captain North, detachments have been at Calcutta on torpedo duty; also at various stations on garrison instruction duty.

During the last five years usually one company has been in Burma, one at Ootacamund, two or three at Secunderabad.

One company was employed on the water-supply project near Bangalore.

During the famine three companies were employed on the Buckingham Canal and one in the Bellary district.

One company has been detached to Bombay for sub-marine mining.

Three companies were in Afghanistan, two were at Malta and Cyprus. At present two companies are in Burma, two in the Rumpa country, one at Secunderabad, and the remainder at head-quarters.

The ordinary peace stations have been Kirkee, Aden and Butcher's Island, Bombay.

Roorkee.
Peshawar.
Rawal Pindi.
Quetta.

Bangalore.
Secunderabad.
Rangoon.

Roorkee.
Rawal Pindi.
Peshawar.
Cherat.
Quetta.

Bengal sappers—

Roorkee.
Peshawar.
Quetta.

Madras sappers—

Bangalore.
Cyprus.

Bombay sappers—
Poona.

Captain W. T. Stuart, Interpreter and Quarter-Master, Bengal Sappers and Miners.

Peshawar 2 companies, Rawal Pindi 1 company, Quetta 1 company, with detachments at Calcutta and garrison classes.

8. Are the number of officers of the royal engineers with the several corps of sappers and miners sufficient?

Colonel H. N. D. Prendergast, R.E., Commandant, "Queen's Own" Sappers and Miners, Madras.

It is not usually quite sufficient. Majors and lieutenant-colonels of the staff corps have sometimes held the command of companies when officers of the royal engineers were scarce, owing to the demands of the public works department. The established number of officers, 25, is ample for the peace establishment, but the organization is defective.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

Certainly not; there has been a perpetual shifting of the royal engineer officers in the Bombay corps, and often there have been not more than three or four royal engineer officers at a time with the corps. The whole establishment is totally inadequate for proper instruction or even for proper command of companies.

Lieutenant-Colonel W. Hitchens, Commanding Royal Engineers, Southern Afghanistan Field Force.

No. If they are to be used in peace and efficient in war, the companies should be officered as I have proposed.

Captain W. North, R.E.

In the Bengal sappers and miners they are not sufficient.

Captain H. H. Cole, R.E., Executive Engineer.

The number of officers at present with the various corps of sappers and miners are as follows:—

Bengal Sappers and Miners—

- 10 companies.
- 1 commandant.
- 1 adjutant.
- 1 quarter-master and interpreter.
- 1 superintendent of instruction.
- 1 superintendent of park and field train.
- 1 instructor of army telegraphy and signalling.
- 4 doing-duty officers.
- 1 medical officer.

Total 11

Madras Sappers and Miners—

- 10 companies.
- 1 commandant.
- 1 adjutant.
- 1 quarter-master and interpreter.
- 1 instructor of army signalling and telegraphy.
- 1 medical officer.
- 2 captains doing duty.
- 8 lieutenants doing duty.

Total 15

Bombay Sappers and Miners—

- 5 companies.
- 1 commandant.
- 1 adjutant and superintendent of instruction.
- 1 quarter-master and interpreter and superintendent of park and field train.
- 1 instructor of army telegraphy and signalling.
- 5 company officers.
- 2 doing-duty officers.
- 1 surgeon.

Total 12

The unequal distribution of officers to the number of companies seems unnecessary. If 11 in Bengal are sufficient for 10 companies, the same number should be equally so in Madras; whilst 12 for 5 companies in Bombay seems an unnecessary extravagance.

Captain W. T. Stuart, Interpreter and Quarter-Master, Bengal Sappers and Miners.

Royal engineer officers are rather expensive; in former days they could not be got to stay with the corps, the public works department offering too great inducement. I would say that one officer per company would be enough at head-quarters, and two with each on detachment command. It would add to the efficiency of the corps to have a field officer as 2nd-in-command, and at least two of the rank of captain, the commandant being a lieutenant-colonel, and the officers taking up duty with the sappers should remain for their full tour of duty in India, or say seven years.

9. It is stated that there is a difficulty experienced in retaining young officers of ability at their legitimate duties with the sappers and miners, consequent on the superior inducements held out to them by the Public Works Department. Is that the case; and if so, does the service suffer in efficiency therefrom; and how would you propose to remedy it?

Lieutenant General C. W. Hutchinson, Inspector-General of Military Works.

Under the present system, young officers of royal engineers on first arrival in India are posted to the corps of sappers and miners; and, after a certain period passed with these Native troops, those who do not prefer to remain with the sappers enter the public works, survey, or other departments.

So far from "superior inducements held out by the public works department" withdrawing officers from the sappers and miners, it is often found difficult to attract these officers from the pleasanter and easier "regimental" life to adopt a "departmental" career.

The advantages enjoyed by the royal engineer subaltern with the sappers are—

- light work;
- casual, privilege, and general leave, often and easily obtained;
- a pleasant and healthy head-quarters station;
- an independent position when on detached duty;
- sufficient pay and few expenses;
- generally a settled life;

whereas in the public works department he is liable to increased expenses, constant changes, very heavy and often irksome work, rare opportunities of leave, and liability to unhealthy, lonely, or disagreeable locations; and to compensate for these disadvantages the scale of pay and the rate of promotion in the public works department are not such as to offer any strong attractions.

As far as my own experience goes, I believe that there is no difficulty in retaining, for regimental service at Roorkee, a sufficiency of able young royal engineer officers; and that, on the contrary, there is generally a disinclination on the part of the subaltern to abandon the more easy and attractive military life for a civil or quasi-civil career on public works, and that the prospects of very slightly higher pay hardly compensate for the very much greater responsibilities and harder work of that department.

As will be seen further on (in my answer to question 66), I consider that young royal engineer officers on arrival in India (Bengal presidency) should be appointed *not* to the sappers and miners, but to the Military Works Branch, which in its (proposed) improved military organization should be the legitimate field of employment for royal engineer officers in India; and that not until after a certain period of approved service in the Military Works Branch should the royal engineer subaltern be allowed to elect for service with the sappers or for departmental employment.

It will be remembered that the royal engineer subaltern, on landing in India, is fresh from regimental duty and from the school of military engineering at Chatham, and has no immediate need for a further course in similar work at the sapper head-quarters; and that he will have opportunities of learning the languages, the modes of life, and the official routine of India under the guidance of the commanding royal engineer and garrison engineers of the Military Works Branch more thoroughly than in the purely regimental routine of life at Roorkee.

I agree with Captain North as to the ability of the sapper officers. I am quite sure that the sapper officers are rather above par as to ability as compared with those who join public works. But it is that the allowances to more than half of the company commanders are totally inadequate; they are less than those of any officers in the army having any duties with Native troops, while their duties are very onerous and much is expected of them.

Officers commanding Madras sapper companies get Rs. 100 a month more than them; subalterns of mountain batteries get Rs. 90 more, with hardly any responsibility.

I would remedy this by simply placing all officers commanding companies on the same footing; also one subaltern per company, besides on the lower scale of doing-duty allowance, or Rs. 52 more than at present. I do not object to all royal engineer officers joining the corps.

In former days, before the abolition of the separate corps of Bengal Engineers, service in the public works department was as much the legitimate duty of the officers as service with the sappers and miners was;

Major-General F. R. Mansell, C.B., R.E.

Major-General A. Fraser, R.E.

and young officers were posted either to the sappers or to the public works department, simply in accordance with the requirements of the public service, and not with reference to their views of superior inducements. Latterly, service in the public works department in the case of young officers of the imperial list in India has been to a certain extent treated as optional. The appointments with the sappers carrying staff pay have been increased in number and emoluments; and I believe there has been no difficulty in recent years in retaining the full complement of officers required with the sappers.

Colonel J. G. Medley, R.E., Consulting Engineer to the Government of India, Railway Department.

I do not understand the use of the word *legitimate* as here applied. The royal engineers are a corps of officers similar to the staff corps, and do not belong to the sappers and miners, except when temporarily attached to it. Their duties, therefore, in the public works or any other department to which they may be posted are quite as "legitimate" as when attached to the sappers and miners. I should say that at present the difficulty is rather the other way, namely, to induce many of the young royal engineers attached to the sappers to join the public works department, as their promotion with the sappers proceeds (I think up to 3rd grade executive engineer) *pari passu* with that of their public works contemporaries, and there are many inducements (in the shape of a more idle life, greater facilities of getting leave, &c.) to their remaining with the sappers. Of late years, too, a feeling has arisen among the young sapper officers that the civil duties of the public works department are undignified for a soldier. I believe this state of things to be very unfortunate and detrimental to the best interests both of the sappers and the public works department. The life of a young sapper officer in time of peace is a very idle one, and he has little opportunity of learning more than he knows already. In the public works department he is always learning something, and much that is of essential service to him in time of war. He learns the language, something of the people, how to manage workmen, the nature of the materials and modes of construction peculiar to and best adapted to the country: above all, he learns to rely on himself and his own resources. And even if, after being out of military harness for a few years, he has forgotten some of the details of the parade-ground, he has acquired an experience, a feeling of confidence and a readiness of resource under difficulties that are far more valuable than what he has lost. I should therefore be inclined to insist on all young royal engineer officers joining the public works department in the first instance, for from three to five years, after which I would allow a certain number to return to the sappers if they wished, drafting others, if necessary, from the public works department in time of war.

Colonel H. N. D. Prendergast, R.E., Commandant, "Queen's Own" Sappers and Miners, Madras.

Formerly, the superior inducements held out by the public works department attracted nearly all the young officers, royal engineers; but now a smart officer finds that he will draw quite as good pay by staying with the sappers as he would by entering the public works department, if he is only to stay in India for his tour of seven years.

I advise officers who are going to make India their home to join the public works department after serving a year with the sappers, unless they have a strong military bias. The prospects of a young officer in the public works department are at present not brilliant; but when a reduction in favor of public works sets in, there may be again a good opening for officers, royal engineers, and a tendency to leave the sappers as soon as possible. To be prepared for this contingency, the staff of the corps of sappers and miners should be rendered attractive; and staff and company commanders should be graded in the public works department. During peace the sub-marine mining company should have two officers; ordinary companies one officer each; pontoon and telegraph companies several officers each.

The commandant,
adjutant,
quarter-master,
instructor in field works,
superintendent of park,
instructor of army signalling,
instructor of telegraphy,

} should have the same advantages as officers holding similar appointments in Bengal.

Some of the staff would require assistants, and reserve officers are required. During the present year two officers have died, two are invalided, and one is on leave.

Colonel the Hon'ble C. J. Merriam, C.E.I., Acting Secretary to the Government of Bombay, Public Works Department.

Yes, I should say it certainly is the case.

The service is liable to suffer in efficiency.

I would increase the sapper allowance to Rs. 120 per mensem; and when the companies are employed upon public works, allow the officers to draw public works department salary.

Lieutenant-Colonel R. De Bour-
bel, R.E., Consulting Engineer to the
Government of India for Guar-
anteed Railways at Lucknow, now on
special duty in Beluchistan.

Royal engineer officers enter the service to work with royal engineer soldiers, who are enlisted as skilled workmen or educated men. When serving with sappers and miners in the Bengal Presidency, they become schoolmasters in elementary pioneering and field-work to ignorant Natives, and do not themselves advance in knowledge. It is for this reason, and not for the sake of lucre, that many royal engineer officers prefer to enter the public works department as a better field for their own practical improvement in their profession.

On the other hand, the unceasing work and toil, the heavy responsibility in money and accounts, the want of holiday rest and leave, and, above all, the slowness of promotion in the public works department, are serious drawbacks, not compensated for by the small additional salary earned in the lower grades.

If the sappers and miners were also enlisted as a skilled body of workmen, there need be no fear of young royal engineer officers preferring the public works department as a career.

If appointments on the army staff were practically open to royal engineers, in the same way as they are to the royal artillery, this would be a strong inducement to a large number of officers to elect for purely military duty with the sappers and miners to begin with. At present such openings are so rare, that a royal engineer officer has no hope of attaining to one.

Lieutenant-Colonel A. M. Lang,
R.E.

There is no difficulty in retaining young officers of ability with the sappers and miners. On the contrary, the public works department does not attract royal engineer subalterns.

The young officer with the sappers and miners has light duties, a good head-quarters station, pleasant society, sufficient pay, and small expenses.

The young officer in the public works department has hard and often unengaging work; but little better pay, constant changes and expenses, and often unhealthy and lonely stations.

Every officer of royal engineers should, on arrival in India, be posted to a military works department (remodelled so as to be more military in character). When reported qualified in language and departmental tests, he should be posted permanently to the military works department, the sappers and miners, or some other department, as he may elect, or as vacancies may occur. The military works department and the sappers and miners to have the first claim to his services. The trigonometrical survey should also be exclusively officered by royal engineers; and one or more state railways should be constructed and worked by a staff of royal engineer officers and men, so as to ensure systematic training for the corps in all details of this most necessary adjunct of military operations.

The sappers in the three presidencies cannot require more than 60 officers, if so many; and as there are more than 400 officers in the 9 battalions of royal engineers in India, there can be no difficulty in securing one-seventh of this number for sapper duty; the difficulty may rather be to find suitable employment for the remaining six-sevenths of the corps.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

Undoubtedly, and naturally so for two reasons. First, many are tempted by the broader range of, and more independent life opened out by, the public works department; and, secondly, by the pecuniary considerations. The engineer officer is more or less a mathematician, and fully realizes the value of Rs. 250 staff pay, *plus* travelling allowances, free life, with change of scene and employment, when balanced against Rs. 60 staff, with a possible addition of Rs. 30 more should he be fortunate enough to obtain a company. The service naturally suffers, as there is a constant change of officers when companies are handed over to royal engineer officers; and still greater harm is done when staff corps officers, who do not and cannot acquire the many details of the several branches of engineering are retained in command.

The only practical remedy seems to be the slight increase of the sapper allowance from Rs. 60 to Rs. 112 (assistant field engineer's staff pay): this Rs. 112 to rise the fourth year, out of a royal engineer's seven years of Indian service, to Rs. 200. The company allowance to remain the same.

The difference of pay is still greatly in favor of the public works department; but this is what it should be in my opinion; only there should not be so great a disproportion as at present.

Lieutenant-Colonel W. Hickens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

I believe it is so; and the young royal engineer officers attached to the sappers are not nearly so efficient as field engineers as they would be if they were employed with their companies as I propose, and as is the case in England and the colonies, upon military works during peace. They would then be employed on public works and paid accordingly.

Lieutenant-Colonel D. Limond,
R.E.

I do not recognize the only legitimate duty of a royal engineer officer to be to serve with a company of Native sappers. As far as I can

judge, service with the sappers in Bengal is only too popular. The practical training received in the public works department is most valuable to an officer on service, although I quite recognize knowledge on military matters generally is not kept up in that branch to the extent it should be.

Lieutenant-Colonel W. H. Burton, R.E.

I believe this is the case. I consider the service suffers by its royal engineer officers being kept in grooves and provinces by the conditions of pay, or by being kept *all their service* in the sappers from disinclination to accept the lottery of employment in public works department. Royal engineer officers undoubtedly are the better officers in war from having had previous employment under war department or in public works department, if, that is, such employment has not been purely office work at head-quarters. They would be also the better for having had some experience of Native sappers. But an officer who has been many years with sappers, and never, or only seldom, employed in constructing works, will be generally found comparatively inefficient in war. The remedy I would propose is that of making "Her Majesty's warrant for pay of royal engineer officers at home and abroad, except in India," applicable in principle to officers in India; and I would post every officer to sappers or to public works according to the requirements of the service from time to time. Because in India the receipt of staff pay in public works department and its amount is made a personal question, depending very much on an officer's personal friends, and very little on either his seniority, previous employment, or efficiency, therefore this difficulty of retaining any officer in particular, either with sappers and miners, or at unfavorable stations, exists. It should not be so; and would not be so, if the following remedy be adopted.—Place all royal engineer officers under the orders of His Excellency the Commander-in-Chief, to be moved about from station to station every three or five years, and from sappers to public works every five years, and from province to province throughout India: such orders to be promulgated through a deputy adjutant-general, royal engineers.

In this connection as I have always understood.

The present system was intended to have been broken up in 1861, and would have been, but for the suggestion that the departmental interests and prospects of the Indian engineer officers would be partially or wholly ruined thereby, and that the royal engineer officers who had then only home and colonial experience of engineering were unfit for Indian engineering. Although the former argument may, in the opinion of some individuals, be partly true, there was never a greater fallacy than the latter. I have no hesitation in saying that, as a body, royal engineers of Indian experience only in works are far behind officers of English and colonial experience in the knowledge and practice of engineering in all its branches, both military and civil, with the one exception of the duty to be done in an "irrigation revenue division," and that the Government of India suffers thereby in the cost, efficiency, and permanency of its public works.

Captain W. North, R.N.

The officers who remain with the sappers are most certainly not inferior in abilities to those who go to the public works department.

There is, however, a difficulty in retaining the services of sufficient numbers, as only those with strong military instincts or with sufficient private means would think it right to forego the very superior pay of the public works department. The service therefore suffers in efficiency.

I would remedy it by—

(1) Having a distinct class of officers out from England for the sappers, and allowing candidates for the public works department to join that department at once.

(2) Giving a staff pay of Rs. 200 a month to officers commanding companies, and Rs. 150 to attached officers.

Captain W. H. Pierson, R.E.

The legitimate duties of an officer of royal engineers will be considered in my reply to question No. 66. But, so far from admitting that the service suffers in efficiency from young officers of ability being employed in the public works department, I am of opinion that it would greatly gain in efficiency if no officer were appointed to be an instructor at Roorkee, or even to the command of a company of sappers, until he had served some time on military works, so as to obtain practical experience of engineering in India. Under the present system, officers with the sappers have no opportunity, except at the expense of an army in the field, of acquiring more than theoretical knowledge; and this, however essential, cannot provide them with that readiness of resource in engineering difficulties which is the outcome of experience and not of book-learning. In support of this view, I invite attention to Sir Garnet Wolseley's remarks, Part IV, page 271 of the Soldier's Pocket Book.

Captain H. H. Cole, R.E., Executive Engineer.

"When I first joined the Bengal sappers and miners in 1865, it certainly was the case that young officers preferred employment on the public works; but I observe that of late there has been an increased desire to serve regimentally; and this has no doubt been increased by the operations on the frontier and in Cabul. With the contemplated reductions in public works, it will be rather a question to find employment for officers of royal engineers with the sappers, or in some way beneficial to the army generally and to its requirements.

Captain W. T. Stuart, Interpreter and Quarter-master, Bengal Sappers and Miners.

I believe such is the case; and, to remedy the defect and increase efficiency, all officers doing duty with the sappers should have the same pay as those on the public works. Military duty is lighter than is the work in the department public works, and more leave is granted.

Lieutenant H. Pilkington, Acting Deputy Consulting Engineer for Railways, Bombay.

I think that royal engineer officers prefer employment in the public works department to doing duty with sappers and miners, as the former gives them better pay, the work is more varied and interesting; they have greater opportunity of seeing the country, and they have more responsibility and independence. Departmental promotion is also open to them, independent of promotion in the corps. On the other hand, service with the sappers and miners in the Bombay presidency cannot be said to have many attractions; and the continual change among the officers hinders the feeling of *esprit de corps*.

The service undoubtedly suffers in efficiency from the difficulty in retaining officers with the sappers and miners.

Officers might be compelled to join the sappers and miners and serve a certain time with them; but as long as the public works department is open, it would be hard to get officers to display much zeal or interest in their duties, while they see their comrades holding what they consider a better position in the public works department. If only a certain number of officers were selected or the public works department, the best would probably be taken away; and the intention of retaining the most efficient officers with the sappers and miners would be defeated.

The only way of inducing officers to join voluntarily and remain with the sappers and miners seems to be to increase the pay, or increase the number of staff appointments. Increased pay might be arranged by grading all officers, as in the public works department, but on a reduced scale of pay, as officers serving with troops have certain advantages in the matter of quarters, mess, forage, &c.

I have never served with sappers and miners in India.

10. Will you be so good as to detail the daily duties of the—

Quarter-master and interpreter?

Superintendent of instruction?

Superintendent of park and field train?

Instructor of army telegraphy and signalling?

Major-General F. R. Maunsell, C.B., R.E.

I can answer that the duties of the regimental staff were very heavy under me. I never worked less than eight hours a day, and often ten and twelve, and my staff officers suffered in proportion; in fact, there is an enormous amount of work in such a miscellaneous corps.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

The quarter-master is charged with the care of the stores and ammunition, the equipments, clothing and necessaries. The barracks, stores, schools, workshops, and Native lines are in his charge, together with the roads, drains, sewers, latrines, bazaar and bazaar establishment. He is a member of the school committee, and the means of communication between the schoolmasters and the commandant. He keeps the cash chest and regimental accounts. He indents for the rations of the Europeans for all stores, applies for railway warrants, carriage, tents, &c. He takes charge of the regimental signal instruction every afternoon, and of the regimental signal practice once a week.

The superintendent of instruction puts company after company through a short course of field works, insuring uniformity. He lectures on tactics, arranges all working parties, and the details of field work instruction, including bridging and practice with the models; he is also responsible for field-work training of the recruits, and supervises all field-work experiments. He attends the 8 A.M. parade daily, and himself superintends the working parties.

The duties of superintendent of park and field train are carried out partly by the quarter-master and partly by an officer nominated by the commandant, who however receives no salary for it.

The instructor of army signalling devotes his whole time to teaching classes of British and Native soldiers of all arms; he parades twice a day with his classes, and his success is proverbial. An instructor of army telegraphy has not yet been appointed, but is required.

Lieutenant-Colonel J. Mills, R.E.,
Commanding Bombay Sappers and
Miners.

In the Bombay corps the duties of quarter-master, interpreter, and superintendent of park and train are performed by one and the same officer. Similarly, one officer conducts the duties of the adjutant, the paymaster, the instructor of field works, and the superintendent of instruction.

Both these officers have work beyond their powers of executing, especially the adjutant.

The duties of the quarter-master and interpreter of course vary from day to day, but are comprised in the following:—

Preparation of all indentations on the commissary of ordnance and other departments; all survey reports and papers connected with stores of every description required by the corps from day to day.

Inspection of lines and regimental buildings, and inspection of schools and workshops.

Issue of necessary orders and instructions for all manufacture and repairs of every kind as required for field and park train.

Issue of pay to lascar and conservancy establishments; finally, the custodianship of all the training plant and field practice plant.

He has also to perform his parade duty like other officers.

The duties of the superintendent of instruction are—

The instruction of the recruit field work class; the superintendence of company annual course of field works in conjunction with the company officers; the working out of projects and details connected with special field works.

Working hours for men at all works are eight hours per diem.

This appointment is at present merged in that of the adjutant; the consequence is that as the adjutant is paymaster and has heavy office work, the work of field instruction has constantly to be delegated to others.

The superintendent of park and train is in Bombay merged in the quarter-master. He ought to have special charge of all plant and stores, and not only repair and issue, but should construct most of the special plant and equipments required during the course of instruction of a military engineer.

The instructor of army signalling and telegraphy is employed in Poona. He has annually two signalling classes for Europeans and three for Natives. He, moreover, visits the whole of the European regiments in the Bombay presidency, and gives a detailed report of the efficiency and training of the regimental signallers.

From the above it will be seen that his duties vary from day to day according to the season of the year.

At the same time the telegraphy of the Bombay army has not been initiated at all, nor has the corps any plant of such a nature as even to instruct men in the subjects.

When a telegraph train is sanctioned, some advance will be made.

Captain W. North, R.E.

Quarter-master and Interpreter.—Office-work, orderly-room hour; and from 10 A.M. to 4 P.M. inspection of lines and transport animals: interpreting duties when required.

Superintendent, Park and Train.—Office-work, as above: constant supervision over manufactures: constant references on scientific subjects.

Superintendent of Instruction.—Office-work as quarter-master: attendance at all out-door instruction, varying as a rule from two hours in summer to eight in winter: attendance at all schools.

Instructor of Army Telegraphy and Signalling.—Office-work same as quarter-master: instruction of classes in army signalling in the winter.

The duties of these three officers are arduous, owing to the large size of the corps, to its being both British and Native, and to the number of scientific and other questions referred.

Captain W. T. Stuart, Interpreter
and Quarter-master, Bengal Sappers
and Miners.

The duties of the interpreter and quarter-master are onerous to a degree; the work is owing to the double nature of the corps, British and Native, and the number of the companies and men detached is equal to the work of a British and Native regiment. This post might, with advantage to the State, be filled by a quarter-master promoted from the ranks, as it would be some inducement for really good men to volunteer and a position to look forward to. There is nothing at present to give encouragement to the British non-commissioned officers, who have of late years fallen off very much; good men can do better by remaining with the companies in England or the colonies. The interpreter's duties might fall upon the superintendent of instruction who has now under him the whole of the educated Native staff. I refrain from offering an opinion upon the other three staff appointments.

11. Why should there be instructors in field-works and assistant instructors in any subjects not very special, if the officers of the corps are capable of imparting instruction ?

Major-General A. Fraser, R.E.

The appointments of instructors in field works and assistant instructors in various subjects were, I suppose, made in order to give the officers actually engaged in such duties something more than their bare military pay, which is nearly the same as that of an infantry officer who has not gone through successfully the same scientific training.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

Instructors in field works are required to insure uniformity of practice, to guide officers in command of companies, and to keep all companies to a nearly uniform standard, to conduct experiments, originate ideas, &c., &c. Assistants are very useful to keep up the records, to be ready to help or succeed their seniors. An assistant to the instructor of telegraphy would be very useful in teaching the sappers; for the instructor would probably teach the army generally, as the instructor of army signalling now does.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

There is a vast difference between one officer imparting instruction in a systematic, uniform, and continuous method, and others who in command of companies keep up so far the knowledge already acquired. Of all the staff appointments, I consider that of the superintendent of instruction to be the most vital and important. So long as a sapper can march fairly, his drill is of little moment; but once a sapper learns his field work in a slovenly or irregular manner, he is damaged almost beyond remedy. It requires steady practice and judgment to regulate the classes, to notice minor imperfections; and, above all, it demands the constant presence and eye of the instructor on the field work ground as an essential to successful outturn of sappers. The company officer has his daily details and duties to execute; he has his regimental tours of duty as well as garrison ones, &c., all of which would frequently interfere with his personal attendance.

All the arguments which may be quoted in favor of the appointment of a regular staff officer as adjutant, instructor of musketry, &c., may be arrayed, but in greater force as regards the superintendent of instruction; for the multiplicity of subjects make his work all the more important, and whatever is done to resuscitate the Bombay corps, I trust the first step may be the appointment of this third staff officer the superintendent of instruction.

The assistant instructors called doing-duty officers are detailed, one to assist the adjutant and superintendent of instruction, the other the superintendent, park and train.

The first is in special charge of all schools and theoretical instruction, surveying and European schools, and more generally in superintending any experiments or trials in field practice, assisting the superintendent of field works in any special duty, and acting for him when the latter is absent from any cause. He has of course his regimental and station duties in addition.

The second has special charge of the photographic, lithographic, and printing schools, will be in charge of the telegraphic and mining apparatus when we get them, and teaches signalling and telegraphy; is specially in charge of the Native artificers and over the sapper workshops; he assists the superintendent of park and train in drawing out working-plans, making calculations, &c., and acts for the latter when he happens to be away; and finally has his regimental and garrison routine duties to perform.

In fact, there is ample work for more than two assistants in the multiplicity of the military engineering studies.

Officers may have a very sufficient knowledge of their work without being able to impart it to others. It is also important that the system of instruction should be uniform. And, again, an officer whose time is devoted to one special branch of engineering, may be expected from time to time to be able to introduce improved and more economical methods of working that branch.

I understand the instructor of field works deals with recruits; obviously it is preferable to instruct as many of this class together as possible.

I presume because no royal engineer officer is willing to perform such duties without extra or staff pay; and when staff pay is attached to such duties, very likely the Government does not obtain the services of the officer most qualified for such work, because, may be, he has better prospects and interests and friends in the public works department or elsewhere. It must be clearly understood that Her Majesty's royal

Lieutenant Colonel W. Hichens, Commanding Royal Engineers, Southern Afghanistan Field Force.

Lieutenant-Colonel D. Diamond, R.E.

Lieutenant-Colonel W. H. Burton, R.E.

pay warrant for royal engineers is the fundamental principle of remuneration on which the corps of royal engineers has been raised and is founded. Disregard it, as it is now disregarded in India, and the efficiency of the whole corps suffers; adopt it in principle, and so upset the present distorted provincial—so-called—system, on which the royal engineer officers in India are dealt with; and then the Government will gain the best service from those officers most experienced in any particular branch of their profession, in any province, &c.

Captain W. North, R.E.

The instruction of the recruits alone would give a very fair amount of work to the superintendent of instruction and his one assistant.

But he has the superintendence of all the schools, and other instruction exercises as well. And his most important duty is to keep himself *au fait* in all the changes in military engineering going on at home. It is absolutely essential to have a special officer for this.

The only other assistant instructor is the telegraph one, and he is most necessary to help the instructor.

Captain W. H. Pierson, R.E.

From my own experience as one of the assistant instructors in field works at Chatham, I believe it to be necessary for the efficient training of sappers that there should be officers whose whole time can be devoted to the work of instruction. I do not wish to imply that the company officers, as far as regards their knowledge of the subject, are incapable of imparting this instruction; on the contrary, it is part of their duty to assist in doing so. But they cannot have sufficient time and opportunities to prepare lectures, conduct experiments, and keep up that acquaintance with contemporary professional literature, both English and foreign, without which the standard of instruction will not improve, if it does not even deteriorate. Again, the company is too small a unit to be thoroughly trained in field works. To enable men to form an intelligent idea of the object of their individual work, they must be shown the result in its completed state; and this cannot be done in the case of a company under separate instruction except at a cost of time and labor quite disproportionate to the object in view. To avoid waste of time, the course of instruction of each company must be combined with that of as many others as possible; and this involves a systematic direction of the instruction which cannot be arranged by company officers. Whatever necessity there may be for riding-masters in the cavalry, for gunnery instructors in the artillery, for musketry instructors in the infantry, there is far more need for field-works instructors in so special an arm as the sappers. The duties of the instructor in field works are indeed so important, that in my opinion he should be an officer of proved qualifications for the post, and, if possible, of the rank of field officer. This point will be again referred to in my reply to question No. 62.

12. What is the course of duty actually undergone by the young officers of royal engineers during the period they are attached to the sappers?

Major-General A. Fraser, R.E.

This should be answered by the officer commanding the sappers. I was adjutant of the sappers and pioneers, but my duty with them was mostly on field service.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

They are usually posted to companies, with which they go through drill, musketry, field-works, &c.; they usually have some particular work under their charge, such as the quarries, the survey school, the printing and lithographic presses, a brickfield or some work in progress, besides orderly duty, courts-martial, and committees.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

In Bombay there has been no excess of young officers, but much the reverse. Young officers of royal engineers are on first coming out attached (nominally for a year, practically for a much shorter time) to the head-quarters of the corps. They are employed on the usual company duties,—drill, field-works, &c.; are required to work at Hindustani, and make themselves generally acquainted with the interior economy of Native troops and the methods of work of Native artificers.

Beyond learning the Native languages, the training at Roorkee is nothing more than a feeble continuation of that through which they have already passed at Chatham.

They are attached to companies at head-quarters and go to work and drill with them.

They do orderly duty as in British regiments.

They learn the language, most of them working very hard at it.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Captain W. North, R.E.

13. Are the numbers of British non-commissioned officers sufficient ?

Major-General F. R. Maunsell,
C.B., R.E.

I am of opinion that the number of British non-commissioned officers might be reduced if those maintained were placed on a better footing and better selected. The supply from the royal engineers should not be shut off; but the chief supply should be from the line, under the plan proposed by me for the last five or six years.

I think that three per company would then answer.

The whole arrangement requires remodelling—more headmen as instructors and fewer drones.

The remnants are a great evil.

There should be a small number of younger hands to supply sudden calls in the 41st Company.

I am sure that it should be clearly understood that these men are selected men in responsible positions with very important duties, and not available for other casual duties or calls. An order for some British non-commissioned officers sometimes denudes a company of special men to its very great injury.

Major-General A. Fraser, R.E.

I would not have any British non-commissioned officers with the Native companies; there is no regular discipline for them. The Europeans should be confined to the sergeant-major and the quartermaster sergeant, who should also look after the sapper stores.

It is excessive. Very few of them are sober, intelligent, active, and trustworthy; the remainder are not of much value.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

Sufficient for peace, but not for service. Each service company should have six non-commissioned officers attached. It would be a great matter to obtain a better and higher class of men sent out than have been arriving in India of late years. A good man is of great use; an indifferent one is worse than useless. I am afraid the good openings which are within the reach of a well-educated man in England will always act against the requirements of the Indian army.

Lieutenant-Colonel D. Limond,
R.E.

Theoretically there are six European non-commissioned officers with each company of Bengal sappers. I think this number sufficient, but not excessive for service.

Captain W. North, R.E.

They would be amply sufficient if they were all the proper kind of men.

Captain W. T. Stuart, Interpreter
and Quartermaster, Bengal Sappers
and Miners.

I consider they are too many. I would reduce the number to 3 per company, *viz.*, 1 sergeant-major, 1 sergeant and 1 corporal.

14. What are the daily duties of each rank of the 63 British non-commissioned officers with each of the Bengal and Madras corps ?

Major-General F. R. Maunsell,
C.B., R.E.

The British non-commissioned officers are also employed in the park and workshops, and in training special classes of Natives in carpentry, &c., and in superintending works on equipment, drawing plans, &c.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

The British non-commissioned officers with the "Queen's Own" Sappers and Miners are as follows:—

- 1 sergeant-major.
- 1 quartermaster sergeant.
- 1 company sergeant-major.
- 20 sergeants.
- 5 corporals.
- 5 second corporals.

33

With the exception of the staff sergeants, and sometimes a survey instructor, all are attached to and drill with companies. They work daily in the shops and schools. The sergeant-major has charge of the printing and lithographic presses. A sergeant has the lithograph school. One sergeant is assistant instructor in army signalling. Several are learning telegraphy and surveying; two are employed in the quarry, and several in the carpenter's and smith's shops.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

The non-commissioned officers with the Bombay Sappers and Miners are—

- 1 sergeant-major.
- 1 quartermaster sergeant.
- 1 assistant instructor of army signalling.

- 1 schoolmaster.
- 4 sergeants.
- 4 first corporals.
- 4 second corporals.

The sergeant-major and quartermaster sergeant at the ordinary duties of such non-commissioned officers. The sergeant-major has in addition the general charge of working parties employed at field-works, &c.

The assistant instructor of army signalling is employed at Poona under the orders of the officer instructor, whose duties have been already explained.

The schoolmaster is employed in the corps European schools in teaching such non-commissioned officers as desire to prepare themselves for the public works department; also in instructing men who remain with the sappers and miners in surveying, drawing, &c.

The remaining non-commissioned officers are employed either at their trades or superintending workshops, field-works, &c., and in the sub-marine mining and telegraph schools. Their working hours are eight per day.

All non-commissioned officers, except the staff sergeants, take their turn of regimental duty at New Jiansi and Kirkee.

Captain W. North, R.E.

The duties for all the ranks are the same in the Bengal sappers.

Field-works (or other military engineering) with their companies from eight hours to two or three hours a day, according to season; three hours drill per week; two hours musketry per week; school three hours a day, except when full work is going on. Also the usual orderly duties.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

They are mostly well employed in superintending the Native portion, as clerks and artizans, and ordinarily regimental routine.

15. How do you account for the apparent disproportion in the above numbers, viz., the five companies of the Bombay Sappers and Miners have 16 British non-commissioned officers, and the 10 companies of each of the other corps have 63?

Major-General A. Fraser, R.E.

I cannot now say what is the reason for the disproportion of British non-commissioned officers with the various Indian corps.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

Until the 19th October 1870, there were 6 non-commissioned officers per company (except for the Aden company) with the Bombay corps of sappers and miners, and, as already stated, I am quite unable to give the reasons which caused the reduction of the number to three per company on the issue of the above order of 19th October 1870.

The company at Aden never has had, for some inexplicable reason, any European non-commissioned officers. Not reckoning the schoolmaster as a non-commissioned officer, and leaving out the Aden company, the numbers formerly arrived at would have been—

Bengal—

Ten companies, six non-commissioned officers per company	60
Staff	3

63

<i>Madras</i>	63
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Bombay—

Four companies, six non-commissioned officers per company	24
Staff	3

27

In Bombay there are now four companies, three non-commissioned officers	12
Staff	3

Total	15
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Lieutenant-Colonel D. Limond, R.E.

I am not aware of the reasons why so few European non-commissioned officers are attached to the Bombay sappers; but as sappers should in most cases be used as instructors or supervisors, I cannot imagine so small a number being sufficient for the wants of an army in the field when large European working parties are turned out.

Captain W. North, R.E.

I am unable to account for this.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners,

In Bengal, the British non-commissioned officer commands the Native officers and takes sole charge when no officer is present. In Madras and Bombay, the British non-commissioned officer superintends and aids, under the Native officer when no British officer is present.

16. Difficulty is supposed to be experienced as regards the retention of British non-commissioned officers with the sappers: is it so? What is your opinion of the utility of these non-commissioned officers? Can they speak the language? How long do they remain on an average with the corps? And what is the peculiarity of the sappers which necessitates the presence with them of British non-commissioned officers?

Are British non-commissioned officers still remanded from the public works department to the sappers for misconduct; and how many men have been so remanded during the last five years?

Lieutenant-General C. W. Hutchinson, Inspector-General of Military Works,

In regard to the utility of British non-commissioned officers for regimental duty with the sappers and miners, I have no experience and knowledge.

My experience of this class in the overseer grades of the military works branch has not been very great; but from my own knowledge of their work, and from the recorded opinions of the officers serving under my orders, I have formed an estimate of their qualifications not altogether favorable.

The men of class A are not in general equal to the military subordinates now educated at the Roorkee College; and although useful artificers are found in the ranks of class B, their want of education in estimating, plan-drawing, surveying, &c., militates against their more general usefulness. However, owing to the possession by the men of class A of general education, and by those of class B of technical skill in some branch of trade, these men, if passed through the Roorkee College course, should prove useful departmental subordinates, and might with advantage form a certain fixed proportion of the overseer grades of the military works branch.

According to Bengal Army Regulations, paragraph 2542, British non-commissioned officers cannot be remanded to the sappers for misconduct, except those belonging to the sappers and miners of the late local army.

During the last five years—

1 non-commissioned officer was remanded to the 41st Company Royal Engineers for *incompetence*.

1 do. do. to the sappers and miners for *misconduct*.

1 do. do. to the 41st Company Royal Engineers to be *invalided*.

Thus from the military works branch only one non-commissioned officer of royal engineers has been remanded for *misconduct*.

There are at present serving in the upper subordinate and barrack sergeant grades of the military works branch—

5 sapper and miner non-commissioned officers;

11 royal engineer non-commissioned officers; or 16 only in a total strength of 98 upper subordinates and 40 barrack sergeants.

The style of work, and the energy, soon fall off without British non-commissioned officers. The Native sappers highly respect them, and have ever looked to them on difficult works.

My opinion, based on experience gained on former service, is as stated in my answer to question 13 in regard to European non-commissioned officers.

British non-commissioned officers belonging to the royal engineers are still remanded to the (41st Company) sappers for misconduct: during the last five years eleven men have been so remanded.

Europeans of class B go to the public works department after a year with the sappers; but men of class A remain during their whole service with the sappers, unless appointed elsewhere at my request. The non-commissioned officers who come to Madras are not selected for talent, and those who have talent are not always steady. Good British non-commissioned officers are useful in keeping the company stores, for signalling and surveying, and in the shops. In the field they lay out tasks for British infantry, and look after the tools: for such duties they are specially required with the sappers. If the non-commissioned officers were carefully selected, they might be of real service in India; we want thorough masters of trades, whereas the carpenters, smiths, &c., that come from England are not superior as artisans to some of the sepoys. The European

Major-General F. R. Maunsell, C.B., R.E.

Major-General A. Fraser, R.E.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

non-commissioned officers do not excel as linguists; but as most of the "Queen's Own" sappers understand English, the want of foreign languages does not much signify. The British non-commissioned officers were useful in Afghanistan with British working-parties; but the detachment of two companies in Rampa preferred to have none. The C Company, having got rid by court-martial of two out of three who accompanied it to Rangoon, begs that no more may be sent to it. Only one British non-commissioned officer has been remanded to the sappers for misconduct during the last five years.

Colonel the Hon'ble C. J. Merri-
man, C.S.I., Acting Secretary, Gov-
ernment of Bombay, Public Works
Department.

Lieutenant-Colonel R. de Baulbel,
R.E., Consulting Engineer to the
Government of India for Guar-
anteed Railways at Lucknow, now
on special duty in Beluchistan.

I imagine the same difficulty is experienced as with the officers. They generally know some trade and are very useful in workshops or directing any description of work in the field. They come to the public works department; they usually do well; but occasionally badly; then they are remanded. Within the last five years three non-commissioned officers have been so remanded to their corps.

There must be some British non-commissioned officers with the Native sappers, both during peace and in war, to instruct the men and to see that difficult work is carried out properly. At present they are the only skilled and educated workmen attached to the companies. The full complement might be six to each company, including its field park. This number might in time of peace be reduced to four, who would suffice to instruct the men. The other two might find employment in the public works, survey and telegraphs, and be liable to be called out to field service whenever required.

Besides the obvious economy, the State derives the advantage of obtaining practical men in its service. Two years of practice are worth ten years of study in teaching a man how to survey; how to make a road, a railway or a canal; how to blast rocks, make a mine or a tunnel; how to manage labor; how to make available means go as far as possible; how to rely upon his own resources. This practical knowledge and habit of self-reliance, when applied in time of war to the military engineering required in the field, is of the utmost value.

In order that the British non-commissioned officer may keep up the knowledge of military duties and work as well, it might be arranged that, out of every ten years, he should serve at least two years with the sappers, returning to some company for this purpose, his place in the public works department being taken by another. The public works, survey and telegraphs might thus contain the reserve of non-commissioned officers from which to make up the war complement not only of the companies but of the siege-parks, telegraph, pontoon trains, &c., that may be formed, and to fill up any war casualties.

If 100 non-commissioned officers are required ordinarily for 25 companies in the three presidencies, there should be 100 more employed in the public works, survey and telegraphs throughout India.

The great bane of the British soldier employed in solitary situations is drink. When alone, ill or depressed in mind from some cause, with no one to talk to or to cheer him up, the man shrinks from his work and seeks refuge in the bottle. Many a man who has failed as a public works overseer in this manner and is remanded to military duty, becomes a good steady soldier under military control and in the society of his comrades. I should deprecate strongly any change in the present practice.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

Formerly there was considerable difficulty in getting men to stay with the sappers and miners, but of late years the public works department has become unpopular among them, and most of them now stay with the sappers and miners and 43rd Company, Royal Engineers.

These non-commissioned officers are not, as a rule (as already stated), the best class of royal engineers. Indian service is not popular at home, especially now that men have great opportunities of getting on as military foremen of works, &c., also in the museums and in well-paid and interesting appointments at Chatham, &c. Of their utility there is no doubt, during peace in superintending works in photo, litho, and printing schools, &c., and on service they are absolutely necessary; for though Natives do well enough on ordinary occasions, they are apt to fail in an emergency, nor do they, as a rule, carry out work with energy, except under European supervision. Any one watching the best Native workmen in his slow methodical manner, and the energy, force, and attention on the same as displayed by even an ordinary European, will grasp more fully what I mean.

I consider European non-commissioned officers necessary to be attached on service to each company.

Their knowledge of the language is fair, much better as regards conversation than as regards reading, writing, &c. In fact, it is very curious how soon they are able to communicate with the Native on all matters.

All the men of the royal engineers who come to India have to serve their full time in the country; but any man may enter the public works department who wishes to do so, provided he is able to pass the educational and practical tests required in the department. Of late years hardly any men have entered the public works department, while a number have returned at their own request.

In a Native regiment the cases where a Native officer or non-commissioned officer is called upon really to use his own judgment, in fact to use his wits, are few and far between; but in the sappers it is far different. In almost every piece of work he has to think how it can best be done, and so on; and it is on this very point where readiness of resource and decision of character are required that an ordinary Native fails; but a European non-commissioned officer would give a fair solution.

It is, however, only fair to point out that the Natives have not had the opportunities that the European non-commissioned officers have had. The sapper's training at Chatham is probably the best in the world, while here in India the want of materials, instructional officers, &c., militate seriously against the efficiency of the Native sapper.

British non-commissioned officers are still remanded from the public works department. One has been so remanded during the last five years; but several have voluntarily applied to return.

This would not be the case if the companies were employed on the public works; the better class of non-commissioned officers would then be in receipt of better pay as superintending works.

The British non-commissioned officers are of great use in war time in superintending working parties of the line, and are also wanted to overlook the work of the Native sappers and Native line working-parties.

The fact of being called upon to supervise work executed by European working-parties appears to me sufficient reason; but, apart from this, sappers are liable at times to be called upon individually to perform duties attended with great risk, and in the absence of any European companies, it appears right to have a certain proportion of Europeans with each Native one.

British non-commissioned officers are not remanded unless they belonged to the corps of royal engineers.

This difficulty does not exist now, as the men who come out have volunteered for the sappers, and no civil department is open to them.

Not being specially selected men, a number of them are inefficient.

Most of them soon learn to speak the language fairly.

Under present circumstances the average may be put down as at least ten years.

Very few Natives have enough of intelligence to be put in charge of the smallest of our working-parties, especially in war, when a mistake might be of enormous importance.

When under Native superintendence only, work never goes on with the vigor with which it should. I don't say this of our men only. I have had a number of working-parties of other Native troops under me, and the result was always the same.

Much trouble would be saved if British non-commissioned officers could be dispensed with, but they cannot be.

British non-commissioned officers are still remanded from the public works department. During the last five years 11 have been so remanded.

British non-commissioned officers of royal engineers are liable to remand to the sappers for misconduct. The instances of such remand of late years have been, I believe, as follows:—

1874.	1875.	1876.	1877.	1878.	Total.
3	2	8	1	2	11

But the employment of royal engineer soldiers in the public works department is likely to be smaller in future than it has been. Formerly men of two classes were admitted—

- (a) men supposed to be of good education, and
- (b) practical artisans able to teach their trade.

It was found that the (a) men were not superior to men taken from the ranks of the army generally and passed through the Thomason College, while (b) men from want of education were unfit for many of the duties of the department. A representation of these facts was made by public works department in June 1878 to the military department, and by that department to the Secretary of State, whose despatch, No. 46 of the 6th February last, promised to take the matter into consideration.

The class of British non-commissioned officers lately received are not worth retaining; they could not get away if they wished, their education

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant-Colonel D. Limond,
R.E.

Captain W. North, R.E.

Captain J. Dundas, R.E.

Captain W. T. Stuart, Interpreter
and Quartermaster, Bengal Sappers
and Miners.

F. W. 2.

HER MAJESTY'S BOMBAY SAPPERS AND MINERS.

ANNUAL FIELD-WORKS COURSE.

Service.	Days.		
	Model.	Full size.	Total.
Brushwood ... ..	...	4	4
Heavy cut-and-shutments ... ..	...	4	4
Heavy field roadwork	1	3	4
Parallels, &c.	2	6	8
Sapping	2	6	8
Batteries and magazines	2	6	8
Mining and firing charges	1	8	9
Bridging	2	8	10
Cable bridges, rafts, &c.	1	8	9
Pontooning ... ..	...	8	8
Railway and road work ... ..	...	4	4
Miscellaneous ... ..	...	5	5
Native officers' projects ... ..	...	7	7
Total ... ..	...	...	88

List, R.E.,

Companying No. Company.

Captain W. North, R.E.

For the first six months of service, recruits drill in musketry, exactly as for infantry.

For the next six months military engineering course, as detailed in accompanying statement marked *A*.

On the completion of the above, the recruits are sworn in, and posted to the service companies.

The service companies, when not on special work, are employed as follows:—

Drill...	...	3 hours a week.
Musketry ... ..	...	1 or 2 hours a week.
Field works } ... ..	...	6 to 8 hours a day in winter.
and military } ... ..	...	2 or 3 hours in summer.
engineering } ... ..	...	2 or 3 hours a day except when at full work.
School ... ..	...	...

The field-works and military engineering is generally as detailed in annexure *A*.

The special companies, pontoon and telegraph, are principally exercised at their own special work.

There are besides special classes for instruction in rough masonry, carpentry, &c.

A.

Individual progress returns } Course commenced
of the recruit squad, Ben- } Course completed
gal Sappers and Miners.

COLD-WEATHER COURSE.

7th October to 15th January, or 15th January to 21st April.

Destroying ... ..	...	...	2
Making—			
Fascines ... ..	...	...	3
Gabions ... ..	...	...	4
Sap rollers ... ..	...	...	1
1st parallel and approaches—			
Tracing and extending parties ... ..	...	...	1
Forming ... ..	...	...	3
Sapping—			
2nd parallel in flying sap ... ..	...	...	3
Single ... ..	...	...	3
Double ... ..	...	...	2
Musketry holes ... ..	...	...	1

Batteries and revetments—			
Tracing	...	...	10 days.
Building	...	...	10 "
Fascine	...	...	10 "
Gabion	...	...	10 "
Sand-bag	...	...	10 "
Sod	...	...	10 "
Laying platforms	...	...	2
Magazine—			
Building	...	...	4
Mining—			
Sinking shafts	...	...	4
Driving galleries	...	...	6
Loading and connecting charges...	...	...	1
Tamping	...	...	1
Boring, blasting, &c., as much as possible.	...	...
Knotting and lashing	...	...	2
Temporary bridges, including pontooning	...	...	3
Throwing up redoubts	...	...	4

HOT-WEATHER COURSE.

21st April to 1st July or 1st July to 7th October.

Splicing ropes	...	...	2
Rowing	...	...	6
Cask bridges	...	...	4
Jones' gabions	...	...	1
Escalading	...	...	3
Stockading	...	...	2
Night work on 1st parallel	...	...	3
Birago trestle	...	...	2
Gunpits and shelter trench	...	...	4
Aërial telegraph	...	...	2
Rough masonry and carpentry, &c., in addition.			

*, Remarks on general proficiency. The six best of each squad to be marked.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

The sappers are well drilled under European supervision and are equal to any regiment in the service, although the Goorkha corps have a more soldiery bearing.

27. How long does it take to make a Native a thoroughly trained sapper ?

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

A Native sapper passes his drill and field-works and gymnastic courses in about a year; but in that year he has learnt no trade, and may have lost dexterity in any trade that he knew before. In his second and third years he will probably acquire a knowledge of some trade, and each year will go through a short course of military engineering. After three years he may be considered a trained sapper.

Lieutenant-Colonel J. Hills, R.E., Commandant Bombay Sappers and Miners.

Three years to do it properly.

Captain W. North, R.E.

One year; but he may be said to improve for seven or eight years after this, if with a company kept at military training.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

Two years is sufficient to train him thoroughly in his various duties, but in a year a useful sapper could be turned out. Two years' severe training make many men disgusted with the service. This was found to be the case with British sappers years ago at Chatham.

28. Is the training of the sappers and miners such as to produce the corps in the most efficient state for service in the field; if not, what suggestions have you to make with a view of obtaining a higher standard of efficiency ?

Major-General F. R. Munsell, C.B., R.E.

Addition to Captain North's, "so that the existing system of spreading the corps in detachments results in the corps not being produced efficient for service." I do not say it has not done good work, but it is not on a par as to chances of arriving at efficiency with other branches.

Major-General A. Fraser, R.E.

I think that the standard of efficiency of the corps as a whole would be raised if more attention were paid to field-works of all descriptions, even at the sacrifice, if necessary, of drill.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

The efficiency of the corps would be increased if staff officers were so well paid that first-rate officers, royal engineers, now in the public works department, would apply for them and remain in the appointments,

Colonel the Honorable C. J. Merriam, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

Lieutenant-Colonel R. de Bourhel, M.E., Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on special duty in Bilachistan.

Lieutenant-Colonel J. Mills, M.E., Commanding Bombay Sappers and Miners.

Captain W. North, M.E.

Captain J. Dundas, M.E.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

and if the number of staff appointments was greater, and if only good draftsmen were sent as sergeants and corporals to the corps. Nevertheless, the corps is now trained so as to be efficient.

Inasmuch as they are invariably called upon to perform heavy work on service in the field, I think their efficiency would be considerably improved by employing them in rotation upon public works during times of peace.

I think that similar employment in the public works, survey and telegraphs of the Native officers, and of the Native non-commissioned officers of the sappers and miners would make them more efficient and practical, and therefore more useful in time of war.

Assuming a given number of each as the war complement, and part of that number as sufficient to remain with the companies in time of peace, the remainder and a reserve of as many more besides to fill up war casualties, supply engineer parks, telegraph, pontoon trains, &c., might be employed during peace on public works generally, a similar rule applying of two years' service out of every ten years with the companies to keep up the knowledge and practice of military duties.

I notice a great difference in the Bengal Sappers and Miners since 1864-65, due, I suppose, to some change in the mode of military training. During the Bhootan campaign and afterwards, in hitting the troops the men were a most useful set, skilled artificers, ready to turn their hand to anything, never made difficulties,—a most capable and willing body. In this Afghan campaign there is not the same alacrity or capability. The men know intrenching work and are handy with the pick and shovel; they seem to have become more pioneers and less skilled artificers, and to have more military duties to attend to.

The change in their military training appears to have made them better combatants at the expense of efficiency in other things.

In addition to and after the course the recruits pass through, each company of Bombay sappers and miners should go through an annual course of field works, lasting about four months, with the exception of the torpedo company, for whom the course will have to be shortened. The torpedo company's sub-marine mining instruction lasts also from four to five months every year.

The above training, when carried out, is well calculated to turn out (and does so) a really efficient sapper; but it has been found impossible under the present inefficient state of men, training establishment, training plant, and materials to teach them as is proper and desirable.

With the training establishment suggested, and a little more liberality in the matter of stock and plant, there is no reason why a highly effective corps should not be turned out fully equal to all requirements of even the present scientific period.

The present system of training is highly calculated to produce efficiency in the field, and I have no suggestions to make.

The numerous detachments, some in most unhealthy stations, operate most unfavorably however, and these are generally the first to be taken for service.

I have no hesitation in saying that, with a view to efficiency on service, as many companies as possible should be kept at head-quarters, and that these should always be taken first for service.

I have seen little of the sappers of late years; but, from what I heard, I am inclined to think that too great attention has been paid to drill at Roorkee. It would be a good thing, I think, if the corps were for a few months in the year employed on public works. They might be camped out near some large work, and the commandant might be paid the contract value of the work done, which he might distribute as he chose among the men. A new canal would be a suitable work.

I consider that *British* officers should take the instruction in hand and not leave it to a staff officer and his subordinates.

29. Is an uniform system followed in the three presidencies in engineer equipment and training of sappers, &c.?

Major-General F. R. Maunsell, C.B., M.E.

The equipments of the Bengal sappers have been ordered for all three corps, that is the engineer equipment and arms. The shortened sword, or knife, considered so great an improvement, does not seem to have been introduced in the Madras companies which were in Afghanistan. *Vide* Captain North's papers also.

Major-General A. Fraser, R.E.

The Madras sappers, with whom I have served in Burma, used not to be worked altogether on the same system as those of Bengal; the detached companies were commanded by infantry officers, and the classes of men were as regards caste different to those of the Bengal sappers. But I got capital work out of them, especially when the general officer allowed them a tot of rum after a hard day's work in the field.

No.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

There are differences in each presidency. Bombay is terribly deficient in all training plant, pontoons, telegraph, kit, &c., and requires a third special staff officer,—a superintendent of instruction.

Captain W. North, R.E.

I believe not.

30. What military works have they been employed on during the last five years?

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Construction of cavalry barracks at Trimulgherry under the Public Works Department; cantonment roads at Secunderabad; smiths and carpenters have been employed in the arsenals of Rangoon and Secunderabad; the pagoda defences at Rangoon and construction of rifle-ranges; also on the Rangoon-Prome Railway.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

The men of the corps were employed in building the new lines at New Jhansie in 1873.

The company at Aden is employed by the Public Works Department in building and in repairs to the fortifications.

In Cyprus the two companies were employed at first in preparing the camp at Chiflik Pasha (three regiments, European infantry, and battery of artillery, one regiment, Native cavalry, and two companies sappers and miners) and making arrangements for the water-supply.

At Larnaka they were employed on road-work for a short time, while for the last two months they were in the island the companies were employed in road-making with large working parties of Greeks and Turks.

In Afghanistan the two companies were first employed in constructing bridges and making the road from Jacobabad to Dadur, thence through the Bolan up to Dozan.

They have constructed small canals and other watering arrangements for the troops at Dozan.

Captain W. North, R.E.

The usual military works in the Jowaki campaign and Afghan campaign. Preparing ground for the station at Cherat and also Murree, work on the fortifications at Quetta, torpedo and defence work at Calcutta.

Captain W. T. Stuart, Interpreter
and Quartermaster, Bengal Sappers
and Miners

Details are lent to the various schools of instruction in Bengal and are highly spoken of, but they do not appear to have been much used on civil works of late years.

31. The following sums are entered in the budget estimates for 1879-80 :—

Bengal sappers and miners, working pay to Europeans and Natives	Rs. 38,903
Madras sappers and miners, working pay to Europeans and Natives	„ 25,000
Bombay sappers and miners, working pay to Europeans and Natives	„ 23,040

Please explain the nature of the work performed.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

The working pay included in the budget for Madras is expended, first, in instruction of recruits and sappers as carpenters, smiths, armourers, stone-cutters, quarrymen, brickmakers, bricklayers, potters, printers, lithographers, bookbinders, photographers, surveyors, sawyers, &c., &c., and in field works, bridging, sapping, mining, &c., and afterwards in carrying on useful works. A great portion of the roads near Mercara were made by the sappers. Their own workshops have been built by them. They assisted in building the Trimulgherry barracks. At present they are making a cholera camp for Europeans near Thayetmyo. They have erected stockades in Rumpa, made roads and defensive works in Afghanistan, roads in Secunderabad, studied sub-marine mining at Bombay. They have built a strong cash room at Bangalore of bricks made by themselves. They have constructed a rifle range at Rangoon, and worked at the pagoda defences. They have also worked as smiths and carpenters at arsenals.

Lieutenant-Colonel J. Mills,
R.E., Commanding Bombay Sappers
and Miners.

Working pay is issued to the Europeans as per regulations.
The men are employed at—
Field-works.
Photography.
Printing.
Telegraphy.
Signalling.
Sub-marine mining.

And in the corps workshops each man is, as far as is possible, kept practised in his particular trade.

Lieutenant-Colonel W. Hicken,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Working pay during this campaign has, under orders from headquarters, been issued daily to all sappers and miners employed or not. This sort of inducement might be necessary if it were sought to attract artificers and men of education into the ranks; but whilst the sappers are recruited in the same way and from the same class as Native infantry soldiers and pioneer regiments, I cannot think it wise or expedient.

Captain W. North, R.E.

The work detailed in the reply to question 26. Also all other work (such as the work in the Afghan campaign) which the sappers are constantly called on to perform.

Captain W. T. Stuart, Interpreter
and Quartermaster, Bengal Sappers
and Miners.

Working pay is granted to both British and Native sappers in accordance with a scale fixed by Government for every day's work. This scale is based on that of the royal engineer corps.

32. What is your view as to the *role* of the Native sapper? Should he be merely a soldier to do such work as is performed by men of pioneer regiments, or should he be a skilled workman at trades? What do you understand to be the difficulties in getting men with the latter qualifications?

Lieutenant-General C. W.
Hutchinson, R.E., Inspector General
of Military Works.

The objection often adduced against the sapper or engineer soldier being a skilled workman is that, if he be so, he will cease to be a soldier, being diverted from military duties to quasi-civil employment; this objection should not apply in India, and could be met by stringent regulations prohibiting any such employment in the case of a sapper, until he had passed a specified number of years under the colors.

Although the legitimate training and employment of a sapper is to fit him for such duties as tracing ground-plans and setting up profiles of field works, making spar and trestle bridges, sapping, mining, signalling, telegraphy and pontooning, and although the trades of mason, bricklayer, carpenter, joiner, smith, &c., are not essentially necessary for the sapper, yet there can be no doubt but that a practical skill in any of these handicrafts could often be usefully employed on service and in emergencies, and should render the recruit more apt to learn and excel in the particular military duties detailed above. If skill in one of the trades above named be found combined with good physique and other requisite military qualifications in any candidate for service, such a candidate should be well suited for enlistment in the sapper corps.

Major-General F. R. Maunsell,
C.B., R.E.

I think that it is most important to uplift the *role* of sappers as soldiers; it makes them proud of their work, and improves them in every way; in fact, it is economical, as it brings better men who would otherwise not come for the pay.

Major-General A. Fraser, R.E.

I do not think that the Native sapper can be anything else than a soldier. The caste difficulty would interfere with the employment of skilled workmen at trades as fighting men as well as the low rate of military pay. But if they can be got, it would be very desirable to enlist them in the ranks.

Colonel J. G. Medley, R.E., Consulting
Engineer to the Government
of India, Railway Department.

A Native sapper should be, and is, a soldier specially trained to the duties of field engineering, *i.e.*, to sapping, mining, pontooning (temporary), bridge-building, signalling, hutting, and the construction of field-works generally, such as batteries and intrenchments. For these purposes he should be a man of more intelligence and better physique than the ordinary sepoy, and should be better paid. If we could induce men of the artisan classes to enlist, we might possess a still more useful body of men than we have now, and could dispense with the services of the civil artificers attached to the corps. But I doubt whether we could persuade Indian artisans to enlist: they would certainly require very high pay, and might be deficient in physique or in the proper military spirit. Sappers and miners at present are highly skilled pioneers; the more of them we have the better for the army. It is simply a question of expense. But as there is a large portion of field engineering work

that can be done by unskilled labor, it is cheaper to employ the trained sapper in the more difficult duties, and to execute the rougher kinds of work by pioneers or working parties from the line or by ordinary laborers hired for the occasion. At the siege of Delhi we had only 150 regular sappers, some 800 Muzbi Sikhs as armed pioneers, and about 1,500 road coolies (unarmed), who were put into a kind of uniform and termed Delhi pioneers. They were paid by the month; their gangsmen acted as non-commissioned officers; and the men constantly worked under a heavy fire, a working party losing in one night 10 killed and 29 wounded while constructing the left breaching battery.

Colonel H. N. D. Prndergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

A large proportion of the sappers should be skilled workmen, and all should be handy men ready to do any work. This is the condition of the Madras sappers. Most of them know several languages, and pick up others with facility. Unless Government will pay a high price for ready-made workmen, the workman must be trained regimentally, for a good workman earns far more than a sapper can, and the latter has besides the troubles of drill and discipline or the pangs and fears of war.

Colonel the Hon'ble C. J. Merri-
man, C.S.I., Acting Secretary to
the Government of Bombay, Public
Works Department.

He should be a skilled workman at some trade. Pay is probably the only difficulty.

Lieutenant-Colonel R. de Bour-
bel, R.E., Consulting Engineer to
the Government of India for Guar-
anteed Railways at Lucknow, now
on special duty in Beluchistan.

The Native sapper generally ought not only to be a pioneer to do intrenching work and open out roads, but be a sapper and miner to perform the work required of such in the construction, attack, defence and demolition of fortified places, and be besides a skilled artisan or mechanic in such trades as are chiefly necessary in military engineering.

He ought to be so much of a soldier as will enable him to fight in the ranks for due protection in carrying out the duties assigned, but he can hardly be expected to attain perfection both as an infantry soldier and as a skilled artisan. In Indian warfare there is ample work for the sappers in surveying, in opening out roads, making and repairing bridges, maintaining and working railways, intrenching and making defences, hutting troops, attack and defence of fortified posts, erecting and working telegraphs, &c., &c. Such services are or may be necessary to any army in the field; and as they cannot be performed by hired civil labor which are not paid and are not accustomed to incur danger and to risk their lives voluntarily, it becomes necessary to enlist a body of men who shall, during war, take the place of the hired civil labor, to give them permanent pay and family pensions in order to cover the risk to life, and to arm and drill them in order to teach them how to protect it and that of others whenever occasion may arise.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

The rôle of a Native sapper is exactly the same as a trained royal engineer or engineer soldier of the Continental army. To be a perfect sapper, he ought to be, if possible, a skilled tradesman; but in addition he should be so trained that he could turn his hand to anything in reason, and possess the faculty of adapting himself to circumstances, doing the best that the material at hand admits of without requiring detailed instructions. He ought to be thoroughly capable of directing and supervising the labor of others. In fact, he is not only the foreman of work to the rest of the army, but the executor of all finished and difficult work.

A pioneer is merely an ordinary soldier trained to some skill in the use of saw, axe, pick, and shovel. A company of sappers and miners attached to the pioneer battalion would direct their efforts, and simply undertake such portions as would be beyond the skill of the pioneer.

Sappers and miners with a force are not intended to be employed at the heavy manual work (as they so constantly are) about the camp limits or on roads, &c. Work like this should be executed by the rank and file of the army, the sapper merely directing their labors.

As far as I can judge, the pioneer battalion is practically an expensive system of keeping the regular trained sapper and miner companies weak and the corps generally far below their relative proportion to the rest of the army.

A pioneer battalion costs approximately Rs. 5,000 for officers and Rs. 7,000 for men, or Rs. 12,000 monthly, to which must be added their working pay when employed on road-making at hill stations, &c.

Four companies of sappers and miners raised to war strength of 150 privates, having two officers per company, and if necessary a field officer, royal engineer, in command, would cost considerably under the above Rs. 12,000, including working pay.

The sappers and miners would be thoroughly trained men in all branches, and would be certainly as good at manual labor and would form (as is now required: see effects of the Afghan War) a reserve of men to the corps at large, and that at a less cost.

In place of having 10 companies sappers *plus* 2 battalions of pioneers, as is the case I believe in Bengal, a proper and practical condition would be to turn these 2 pioneer battalions into 4 companies each of sappers and miners and send them in rotation to the head-quarters of the sappers and miners for proper training in all engineering duties. In addition to the special companies, such as torpedo, pontoon and telegraph, were the corps divided into 3 sets of 4 companies of 150 men each, returning in turn to head-quarters for two years and remaining four at work on hill roads, &c., a really useful body of men would be at the service of Government in any campaign, and the paucity of the engineer corps supplied without any extra expense whatever to the State.

I beg to bring this subject particularly to the notice of the Committee for careful consideration and examination; for I cannot help feeling that an utterly wrong system has been inaugurated by the retention of these battalions to the detriment of the true pioneer, the sapper and miner; possibly, the name of pioneer battalion in the armies of the Continent has misled certain authorities and induced them to retain these battalions as pioneers. I would remark that I believe both were originally raised by royal engineer officers, and were intended to supplement as far as possible the sappers and miners, as trained men were not available nor training possible during that period. There would be no difficulty whatever in getting tradesmen and skilled labor on this side of India, were the pay and inducements held out to them better than they are. It is a mere question of market value; the remuneration of skilled labor is about 300 per cent. more than the pay of a sapper; and, as stated at question 22, the pay even of ordinary Native boatmen in Bombay is Rs. 14 a month, while the man leads an independent life with his family circle around him.

He should be a skilled workman. I apprehend that the difficulty lies chiefly in the wish at head-quarters at Roorkee to consider the sappers in the light of an infantry battalion.

I consider the sapper should have a much higher training than the pioneer; every man should be instructed in sapping, mining, military bridging, &c., &c. He should also be trained as an instructor. The more tradesmen there are with a company the better; a high standard of efficiency in any one is not necessary. I am not aware difficulty is experienced in getting such men to enlist.

I think a Native sapper should be a Native artificer trained as a soldier fit to withstand the hardships of a campaign, not unwilling to cross the sea by reason of caste or any other prejudice, and of reasonable physique.

The only difficulty I can imagine in getting recruits in India skilled at the trades mentioned in answer 3 to be that of pay (of course recruiting for particular corps should not be confined to particular districts and castes); this would be removed, I think, if the labor necessary for repairs, small new buildings, and alterations, &c., to forts and buildings were performed by the sappers and remunerated weekly by certain regulated rates of working pay chargeable to engineer services.

The rate of working pay allowed to each sapper would be best settled as it is, in the English service,—a system which I have found invariably, both at home and abroad, to be both economical to the Government, by keeping down the price of work, and satisfactory to the soldier; it is one, moreover, which could in certain kinds of work be advantageously extended to other Native corps.

I consider that a sapper should be a soldier, but should, in addition, be a great deal more than a pioneer; should be, in fact, what we endeavour to make him. A good deal of what he has to learn is detailed in the annexure A,* but there are a number of other things taught.

A number are also taught rough trades after enlistment, so that they can make all the constructions likely to be required in war.

Supposing skilled tradesmen were to be got to enlist as soldiers, I believe it would be a positive disadvantage to have them: they would be apt to be told off for private work by young officers who would not like to refuse, when they were badly required to swell the working strength of the company.

The skilled tradesman in this part of India would be utterly unfit, I believe, for a soldier or sapper. I have heard that the tradesmen in the Punjab would make good soldiers, but I have also heard that Rs. 20 a month would be the lowest pay they would require.

A sapper should be much more than a pioneer. Of course, he should be able to work faster and better with pick and shovel than any untrained soldier. But he should also be trained in making trenches and batteries, in bridge-work, mining, &c., so that a small

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant-Colonel D. Limond,
R.E.

Lieutenant-Colonel W. H. Burton,
R.E.

Captain W. North, R.E.

Captain J. Dundas, R.E.

number of sappers might be sent with a large working party of other troops, and might be trusted to act as leading men in the work to be done. It is certainly very desirable to have in the ranks as many skilled workmen as possible; but the difficulty seems to be that a man who could make large earnings in civil life would hardly be attracted by a sapper's pay. Men who had already enlisted might no doubt be taught trades in the corps workshops.

Captain W. H. Pierson, R.E.

The rôle of the Native sapper should be that assigned to the engineer-soldier in all countries. He should consequently be more highly trained than the men of pioneer regiments in India; but it does not follow that he need be a skilled workman at trades. No army can offer sufficient inducements to secure the services of really skilled workmen in the ranks; but young men of the artificer class should, as far as possible, be enlisted, to be subsequently carefully trained in their respective trades so as to become in time respectable workmen. I have no experience as to the difficulty of enlisting such men in India; but it is a difficulty that must be overcome if efficient sappers are required.

Captain H. H. Cole, R.E., Executive Engineer.

The Native sapper should, I think, be in himself, without auxiliaries, an efficient scientific soldier for fortifications, communications, hutting, demolition, &c. He should be skilled enough to assist in those works requiring skilled labor, and be able to protect himself whilst on works. He should also be an efficient unit in a force for attack. The difficulty in enlisting skilled labor lies in the prejudices hitherto prevalent among the fighting castes against manual labor. On the other hand, Native artisans have not fighting traditions.

Captain W. T. Stuart, Interpreter and Quarter-Master, Bengal Sappers and Miners.

The Native sapper can and is trained to the highest system of military engineering, including pontooning, bridging, telegraphy and a knowledge of surveying. These branches once acquired are not lost sight of; but I see no reason why the highly trained sapper should not be made most useful in aiding and supervising pioneers and Native infantry in ordinary unskilled works, such as road-making, boring and blasting, and such like.

33. A considerable number of Native artificers and followers is attached. Please state if these cannot be reduced. Should not artificers especially be looked for in the ranks of the sappers, alteration being made if necessary in regard to enlistment?

Major-General F. R. Maunsell, C.B., R.E.

It is beyond doubt that good artisans, that is Indians, would not be efficient for other hard work or likely to like soldiering, nor would they be satisfied with the allowances of a sapper. The small number of artisans are very necessary both for work and to train sappers, and this system of training the sappers to be rough artisans seems the best possible plan. I believe this, when fully carried out, to be a superior plan to that of the royal engineer companies or of any other system that I know of, but it is difficult with all the companies broken up or rather dispersed over India.

The want of artisans in the ranks does not exist in the Madras corps I believe. The company which served under my orders had a number of very respectable carpenters, who had been taught upon the system only lately taken up in the Bengal corps; but that corps has an enormous pull over the Bengal, in being about three times the proportionate strength, with a comparative small tract of country to serve in, so that they are much under training at their head-quarters.

Major-General A. Fraser, R.E.

I do not think that artificers should be looked for in the ranks of the Native sappers. If the European companies were divided into four sections, one of which with a small field equipment of carpenter's and smith's tools, accompanied each of the four companies to the field, the following of Native artificers might be done away with.

Colonel H. N. D. Prendergast, R.E., Commandant, "Queen's Own" Sappers and Miners, Madras.

The Native artificers and followers of a company of sappers from Madras are—

- 1 smith.
- 1 carpenter.
- 1 hammerman.
- 1 bellows-boy.
- 1 regimental masear.
- 1 puckalli.

The hammerman and bellows-boy could be replaced by sappers, it is true, but they are useful and very cheap. It is a comfort to have a smith and carpenter ready for work when the men are otherwise engaged and the followers are utilized in action by carrying cartouches of ammunition.

In place of having 10 companies sappers, *plus* 2 battalions of pioneers, as in the case I believe in Bengal, a proper and practical condition would be to turn these 2 pioneer battalions into 4 companies each of sappers and miners and send them in rotation to the head-quarters of the sappers and miners for proper training in all engineering duties. In addition to the special companies, such as *carpels*, ponton and telegraph, were the corps divided into 3 sets of 4 companies of 150 men each, returning in turn to head-quarters for two years and remaining four at work on hill roads, &c., a really useful body of men would be at the service of Government in any campaign, and the paucity of the engineer corps supplied without any extra expense whatever to the State.

I beg to bring this subject particularly to the notice of the Committee for careful consideration and examination; for I cannot help feeling that an utterly wrong system has been inaugurated by the retention of these battalions to the detriment of the true pioneer, the sapper and miner; possibly, the name of pioneer battalion in the armies of the Continent has misled certain authorities and induced them to retain these battalions as pioneers. I would remark that I believe both were originally raised by royal engineer officers, and were intended to supplement as far as possible the sappers and miners, as trained men were not available nor training possible during that period. There would be no difficulty whatever in getting tradesmen and skilled labor on this side of India, were the pay and inducements held out to them better than they are. It is a mere question of market value; the remuneration of skilled labor is about 300 per cent. more than the pay of a sapper; and, as stated at question 22, the pay even of ordinary Native boatmen in Bombay is Rs. 14 a month, while the man leads an independent life with his family circle around him.

He should be a skilled workman. I apprehend that the difficulty lies chiefly in the wish at head-quarters at Roorkee to consider the sappers in the light of an infantry battalion.

I consider the sapper should have a much higher training than the pioneer; every man should be instructed in sapping, mining, military bridging, &c., &c. He should also be trained as an instructor. The more tradesmen there are with a company the better; a high standard of efficiency in any one is not necessary. I am not aware difficulty is experienced in getting such men to enlist.

I think a Native sapper should be a Native artificer trained as a soldier fit to withstand the hardships of a campaign, not unwilling to cross the sea by reason of caste or any other prejudice, and of reasonable physique.

The only difficulty I can imagine in getting recruits in India skilled at the trades mentioned in answer 3 to be that of pay (of course recruiting for particular corps should not be confined to particular districts and castes); this would be removed, I think, if the labor necessary for repairs, small new buildings, and alterations, &c., to forts and buildings were performed by the sappers and remunerated weekly by certain regulated rates of working pay chargeable to engineer services.

The rate of working pay allowed to each sapper would be best settled as it is in the English service,—a system which I have found invariably, both at home and abroad, to be both economical to the Government, by keeping down the price of work, and satisfactory to the soldier; it is one, moreover, which could in certain kinds of work be advantageously extended to other Native corps.

I consider that a sapper should be a soldier, but should, in addition, be a great deal more than a pioneer; should be, in fact, what we endeavour to make him. A good deal of what he has to learn is detailed in the annexure A,* but there are a number of other things taught.

A number are also taught rough trades after enlistment, so that they can make all the constructions likely to be required in war.

Supposing skilled tradesmen were to be got to enlist as soldiers, I believe it would be a positive disadvantage to have them: they would be apt to be told off for private work by young officers who would not like to refuse, when they were badly required to swell the working strength of the company.

The skilled tradesman in this part of India would be utterly unfit, I believe, for a soldier or sapper. I have heard that the tradesmen in the Punjab would make good soldiers, but I have also heard that Rs. 20 a month would be the lowest pay they would require.

A sapper should be much more than a pioneer. Of course, he should be able to work faster and better with pick and shovel than any untrained soldier. But he should also be trained in making trenches and batteries, in bridge-work, mining, &c., so that a small

Lieutenant-Colonel W. Hiebens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant-Colonel D. Lindsay,
R.E.

Lieutenant-Colonel W. H. Burton,
R.E.

Captain W. North, R.E.

Captain J. Dundas, R.E.

* See answer 26.

number of sappers might be sent with a large working party of other troops, and might be trusted to act as leading men in the work to be done. It is certainly very desirable to have in the ranks as many skilled workmen as possible; but the difficulty seems to be that a man who could make large earnings in civil life would hardly be attracted by a sapper's pay. Men who had already enlisted might no doubt be taught trades in the corps workshops.

Captain W. H. Pierson, R.E.

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Captain H. H. Cole, R.E., Executive Engineer.

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Major-General A. Fraser, R.E.

I do not think that artificers should be looked for in the ranks of the Native sappers. If the European companies were divided into four sections, one of which with a small field equipment of carpenter's and smith's tools, accompanied each of the four companies to the field, the following of Native artificers might be done away with.

Colonel H. N. D. Prendergast, R.E., Commandant, "Queen's Own" Sappers and Miners, Madras.

The Native artificers and followers of a company of sappers from Madras are—

- 1 smith.
- 1 carpenter.
- 1 hammerman.
- 1 bellows-boy.
- 1 regimental lascar.
- 1 puckalli.

The hammerman and bellows-boy could be replaced by sappers, it is true, but they are useful and very cheap. It is a comfort to have a smith and carpenter ready for work when the men are otherwise engaged and the followers are utilized in action by carrying cartouches of ammunition.

Lieutenant-Colonel R. de Don-
bol, M.E., Consulting Engineer to
the Government of India for
Guaranteed Railways at Lucknow,
now on special duty in Biluchis-
tan.

The establishment of a sapper company with field park on a war
footing might consist of—

DETAIL.	Officers.	Non-com- missioned officers.	Sappers.	Total.	REMARKS.
British officers ...	3	3	Camp followers not included. Transport and drivers would be provided in addition. The object should be to enlist the number of men in these trades and to teach them all afterwards the work required in field engineering.
Non-commissioned officers	6	...	6	
Native officers ...	3	...	...	3
Native non-commissioned officers.	...	14	...	14	
Clerks	2	2	
Buglers	2	2	
Pioneers	20	20	
Brick-makers	10	10	
Brick-layers	6	6	
Stone-masons	4	4	
Carpenters	10	10	
Blacksmiths	6	6	
Plate-layers	8	8	
Miners	10	10	
Quarrymen	10	10	
Wheelwrights	2	2	
Painters	2	2	
Tailors	5	5	
Leather-workers	4	4	
Tinsmiths	2	2	
Glaziers	2	2	
TOTAL ...	6	20	103	131	

This might be reduced during peace to—

DETAIL.	Officers.	Non-com- missioned officers.	Sappers.	Total.	REMARKS.
British officers ...	2	2	Camp followers not included; 10 per cent. of the whole number would usually be absent on furlough.
Non-commissioned officers	4	...	4	
Native officers ...	2	...	...	2
Native non-commissioned officers.	...	8	...	8	
Clerks	2	2	
Buglers	2	2	
Pioneers	10	10	
Brick-makers	6	6	
Brick-layers	6	6	
Stone-masons	4	4	
Carpenters	8	8	
Blacksmiths	6	6	
Plate-layers	8	8	
Miners	8	8	
Quarrymen	8	8	
Wheelwrights	2	2	
Painters	2	2	
Tailors	5	5	
Leather-workers	4	4	
Tinsmiths	2	2	
Glaziers	2	2	
TOTAL ...	4	12	85	101	

Lieutenant-Colonel J. Hills,
M.E., Commanding Bombay Sap-
pers and Miners.

There are a number certainly of artificers attached, and they might be slightly reduced in number; but I consider it of very great value to the head-quarters and companies to have a few well skilled tradesmen of different arts who cannot only be generally utilized in workshops, but who would form practical teachers to the recruit class.

I would strongly advocate on this side of India slightly increased pay and better pensions. Their numbers are very small, but their influence, if properly exercised in training young men in trades, would

be invaluable. The class we have are not as a rule sufficiently good, pay &c., being too low to tempt first-class men.

I do not consider that it would be advisable to do away with them, but they might be regularly enlisted and put through a rough course of duty to be able to use the rifle, &c., and not be so utterly helpless as at present. On service, &c., there is plenty of work for the artificers,—mending picks, shovels, &c.; if sappers are detailed for this work, they escape guard mounting, &c., and cause unpleasant feeling which should not be allowed to exist: hence consider the artificer recognized as such is necessary to a company.

These artificers are even now supplemented by artificers of sorts in the ranks. The table of castes and trades will show this; at the same time, we have great difficulty in obtaining smiths, the railway and other departments swallowing up every available man.

The only great branch of followers attached to the service companies were the dooly-bearers, of whom 54 were sent with each company. This number is excessive, and I think should be reduced.

Civil artificers might, and in my opinion ought to, be done away with. Artificers should be found in the ranks.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant-Colonel W. H. Burton,
R.E.

I do not consider the forty-five artificers attached to these sappers all necessary. I would reduce the number to one brick-layer maistry, one mason maistry, one carpenter maistry, one blacksmith maistry; these four men to be attached to the depôt for purposes of instruction and of assisting boards of officers in rating the sappers' working pay.

Captain W. North, R.E.

When the companies are at work, the whole of the mistries are required to keep the tools in repair; in fact, they can't do this properly.

I don't think the other servants could be reduced, two bhisties, two sweepers, and a lascar.

In reply to question thirty-two, I explained why I did not think that artificers should be looked for in the ranks of the sappers.

Captain W. H. Pierson, R.E.

All the artificers required should undoubtedly be found in the ranks of the sappers. The composition of an engineer company at home is laid down at—

Carpenters	...	...	...	24 per cent.
Smiths	...	...	...	10 "
Bricklayers and masons	...	...	...	30 "
Other trades, including clerks and laborers	...	...	...	36 "
				<hr/>
				100

But, as already noticed, most of these cannot be anything more than apprentices in the various trades. I am most reluctant to admit the necessity of any followers whatever; and the onus of proving that some of them must be retained might fairly be thrown upon those officers who advocate the present system.

Captain H. H. Cole, R.E.,
Executive Engineer.

Excepting in the case of regimental bheesties and sweepers, medical and hospital establishments and conservancy, an effort should, I think, be made to enlist in the companies all such men, now followers, as smiths, firemen, filemen, hammermen, carpenters, moochies, &c.

Captain W. T. Stuart, Inter-
preter and Quarter-Master, Bengal
Sappers and Miners.

These non-combatant artificers are a mistake; all should be enlisted, clothed, and pensioned as sappers. It would, from the fact of only certain castes being skilled artisans, be difficult to obtain them, but a certain number could be trained as boys and enlisted when they grew up. The present havildar armourer of the corps—a very good workman—is by caste a weaver. He is, moreover, an *excellent* soldier.

34. (a) It is very desirable to reduce the number of followers of all classes both in peace time and on active service: can you suggest reductions of the present establishment?

(b) Can you suggest improvement in the system of engaging these men; and in what way could they be organized so as to be less defenceless and helpless than they are at present?

Major-General A. Fraser, R.E.

The suggestion made in reply to the last question would, if adopted, result in a reduction of the number of Native followers. I am not at present in a position to say what further reductions might be made, or how they could be organized so as to render them less defenceless.

Colonel H. N. D. Prendergast,
R.E., Commandant, Queen's Own
Sappers and Miners, Madras.

Lieutenant-Colonel J. Mills, R.E.,
Commanding Bombay Sappers and
Miners.

(a) The hammerman and bellows-boy could be abolished, and two sappers added to each company.

(b) The artificers should receive higher pay than they do now, and should be armed with a *kookeri* or working knife.

(a) There is but a small establishment of followers to a company of sappers and miners in peace, and they could not well be reduced; they are as follows:—

Carpenter	...	...	...	...	1
Smith	...	...	...	...	1
Mason	...	...	...	...	1
Hammerman	...	...	...	...	1
Bellows-boy	...	...	...	...	1
Bheesties	...	...	...	...	2
Lascar	...	...	...	...	1

When the sapper and miner companies were warned for service, no less than 54 dooly-bearers were attached to each company; this was much in excess of what was required practically. A little more caution in not sending weak or sickly men would of itself save the necessity of dooly-men, but 16 to 20 would have been ample.

It would have been far better had this representative number of mouths to feed been made up of only 20 dooly-bearers, and the difference thrown in as additional sappers, for these last could have carried their own comrades quite as well as the set of dooly-men sent.

(b) I cannot but think when it was decided to have 600 dooly-bearers to each regiment that they ought to have been called out at once war was determined upon and put through a rough musketry course and marching had there been time, with weapons supplied them which they could easily have carried on the dooly. Having attained a certain knowledge of the use of firearms, they could easily have defended themselves and the sick and wounded they were carrying. One successful defence would have animated them so much, that in case of need they might have been depended upon to supplement the actual fighting force.

Not only were their numbers out of all proportion, and as such threatening seriously to swamp and embarrass the fighting element, but the rapidity of their enlistment and the numbers called for introduced a large number of men who ought never to have been taken. In place of this it were better to have a regular corps organized in peace time of men who should undergo sufficient training to make them fully competent to defend themselves and form up in bodies; they would then come under the head ambulance corps; but under whatsoever denomination they may be recruited, they should all learn the rudiments of drill and of the musketry exercise.

Captain W. North, R.E.

(a) For war, I believe the Kabul scale ample, but that it could not be reduced. The number of dooly-bearers was so enormous, that any small addition or diminution in the numbers of other followers would be unimportant.

In peace time the present establishment of followers could not be reduced without inconvenience to individuals, as long as five Native servants are required to do the work which one does at home.

(b) The only thing I can suggest would be a small amount of drill and discipline, and this would be useless unless all, including all dooly-bearers, were retained in time of peace.

(a) I think reductions should be tried, but it would be necessary to proceed experimentally, and to begin by training men already enlisted in some of the work for which followers are now engaged.

(b) As long as followers are a necessity, it would, I think, be a good principle to make the Native officers engage them, and select them specially for physical qualities and for courage. The Native officers should, I think, be held directly responsible for the behaviour of all followers.

Nothing struck me so much during the late campaign as the utter uselessness of large numbers of unarmed camp followers, public and private, especially the kahars, for many were simply very inferior coolies. I would reduce the numbers all round, would train and organize them, clothe and find them with at least a side arm. All public followers should be so organized, and if each officer were allowed a soldier servant, he could be most useful in both capacities in camp and on the line of march.

35. Do you consider the reserve system could be applied to the sappers?

Major-General F. R. Maunsell,
R.E.

I think the reserve system could be applied to the sappers equally as to other branches; some modifications might probably be desirable for

them, assuming that a peace-footing, a war-footing, and a sufficiency of recruits were obtainable and under training.

Major-General A. Fraser, R.E.

The reserve system is, in my opinion, both applicable and highly desirable in the case of the sappers. For the European portion I would have two companies borne on the home establishment, but paid for by, and at the entire disposal of, the Indian Government; one of these companies should be in India, and the other in England at the headquarters under training in all the latest inventions and arrangements for war. Of the eight Native companies, I would have four with the colors and four in the reserve. Probably two companies of European royal engineers would be enough for Bombay and Madras together, the one in India being divided between the two Governments.

Colonel J. G. Medley, R.E., Consulting Engineer to the Government of India, Railway Department.

I think *not*. As a general rule, the men would lose much of what they had learnt, and it would be difficult to get them back again to the colors, while the saving effected on the small number of men would be inconsiderable. If, however, the reserve men could be employed under Government in civil duties, as suggested in question 43, the measure would be a very useful one (see next answer).

Colonel H. N. D. Prendergast, R.E., Commandant, "Queen's Own" Sappers and Miners, Madras.

I do not think it should be applied to sappers: a sapper in the reserve would soon lose all his good points.

Lieutenant-Colonel R. de Bourbel, R.E., Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on special duty in Biluchistan.

A reserve system in the ordinary sense, where the men are not employed in any active capacity by Government, would, I fear, be a hidden danger to India in the event of any insurrection of the people.

Half the men might remain true and join their colors; the other half, worked upon by their surroundings at home, and from sympathy with the insurgents, might skulk. I should not like to depend upon the chance of such a body, freed from any discipline or control during some years, collecting together promptly in moments of sudden danger. But, with the aid of employment in public works, including railways, telegraphs and surveys, a reserve might be formed which would be free from the above objection. My idea is a term of service from 36 years, of which the first 9 years with the sappers and miners, 9 years in public works, railways, telegraphs or surveys, 9 years again with the sappers, and the last 9 years on public works generally; there would thus be always a large proportion present of old soldiers with the recruits in the sapper companies.

The public works, railways, telegraphs and surveys would be glad to employ such Native sappers as are artificers. Half the number would no doubt be such, and the rest as pointsmen, signallers, platelayers, train guards, train or survey kalasies, orderlies, heads of coolie gangs, &c.

The men throughout would be under the eye and control of Government and be always ready to join the ranks in time of war or of internal disturbance. Such a reserve would not only be working all the time they receive pay from Government, but could be more depended upon in critical times to come together promptly and to remain true and loyal.

Lieutenant-Colonel J. Mills, R.E., Commanding Bombay Sappers and Miners.

No; not as might be applied to the rest of the army; but I append my ideas how such can easily and most advantageously be formed. Once a skilled workman were placed in any reserve and gained civil employment, he would never throw up his place to return to the reserve. The same strong feeling of duty and loyalty which animates the English people cannot be expected from a Native; and hence all ordinary reserves would, I believe, fail the sappers and miners.

The best and simplest method of having a strong body of sappers and miners is by making a certain portion pay their own expenditure. By turning in Bengal the pioneer battalions into four companies of sappers and miners and utilizing them in turns on the many hill stations, &c., in Bengal, and now on the frontier, a large number of men who more than pay their way is obtained and made available for an active reserve. Similarly, in Bombay, I have apportioned three companies for duties under the Public Works Department, who should be induced to use them in preference to ordinary labor. All these moving back and forward by steady rotation would form an excellent body of men. In Madras such a system is to a certain extent already carried out, and greatly reduces the cost of their sappers and miners.

But in addition to the above, I would strongly advise, as it also meets question 61 (a), that three or four men picked for their intelligence, chosen from the men who have just completed their third year of service (having not only been thoroughly drilled and passed through the musketry course, but have become also fully formed), be sent annually from each regiment to the headquarters of the corps of sappers and miners. These men should remain three or four years with the corps, undergoing careful instructions and practice. A simple course of instruc-

tion is not sufficient; it is intended that they should by practice of two or three years become fully able to apply their practice before they return to their regiments. After their third or fourth year they would return to their respective regiments and be the leaven to carry out any sudden engineering call which might be made upon the battalions to which they belong; their knowledge of the construction of small bridges, the throwing up of barricades and defence obstacles, the building of rough huts, methods of crossing rivers, &c., would be of very great value in movements and camps, and they would be able profitably to direct the work of the remainder of the men in ordinary labor.

By the above means, taking Bombay at 30 regiments or battalions, there would be sent annually 90 to 120 men, and they would accumulate to from 300 to 400 men at the sapper and miner head-quarters, of whom three-fourths could on any emergency be draughted into the sappers. A most valuable reserve would be thus obtained, who under ordinary circumstances would increase the engineering usefulness of the Native battalions, and in case of emergency form the sapper reserve; even in such a case were all swamped, a loss of only from 10 to 12 men per battalion, a mere nothing, would fall upon the Native regiments. The expense of this would be but trifling, for the regiments would be simply 12 men short in numbers, and only a very small extra training establishment would be necessitated.

No; I think the sappers should be kept at a war strength, and employed in peace on the public works.

No, not as sappers. The men might be passed into a reserve as pioneers.

I do not think the reserve system could be successfully applied to Native sappers.

No; I consider that it would be impossible to apply it to the sappers, unless present conditions are entirely altered.

I don't see how a reserve system can work unless a large number of recruits are available, as is probably the case with the infantry.

In the sappers we can only just obtain the recruits necessary to fill the places of those invalidated, who are fit for no further service, either reserve or other. It would not be worth while considering the few men who leave the service, while still strong, at their own request.

For the above reasons, I feel unable to answer the other questions regarding a reserve.

I think not, because I believe that each man ought to be thoroughly efficient, and that the expansion on service which the idea of a reserve implies would be sufficiently met by the employment with the sappers of working parties of other troops. Men of a reserve would be apt to be inefficient for the special duties of sappers.

The reserve system might be applied to sappers; but it would seem better merely to transfer them for employment in their respective trades under garrison engineers in military works. This would answer equally well from a financial point of view, and would present the very great advantages—1st, of keeping the men under control and available for service at the shortest notice; 2ndly, of completing their education as artificers, so that fairly skilled workmen might eventually be found in the ranks in time of war. This system, however, could not be applied to the class of men now enlisted.

I consider that when a sapper is fully trained it would be well to retain his services until past active work in the field. Some pensioner sappers did good service at the Residency, Lucknow, in 1857, and might do so again if occasion required it. So did some old Sikh artillery at the siege of Delhi.

36. Do you consider that in the case of popular disturbance men in the reserve would respond to the call to join their colors, or would they be likely to make common cause against the Government?

Major-General F. R. Maunsell,
O.B., R.E.

I think the reserve would respond to the call to join their colors; that if the men with the colors were faithful their comrades would join them. Although I do not think the Government is popular, I think that a wholesome conception of British power exists, and of the futility of opposition.

Major-General A. Fraser, R.E.

The behaviour of the men in the reserve in the case of popular disturbance would, of course, depend on the nature of the disturbance; but they would in any case be more likely to become dangerous if left without employment.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.
Lieutenant-Colonel D. Limond,
R.E.

Lieutenant-Colonel W. H. Barton,
R.E.

Captain W. North, R.E.

Captain J. Dundas, R.E.

Captain W. H. Pierson, R.E.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal
Sappers and Miners.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Lieutenant-Colonel R. de Bourbel,
R.E., Consulting Engineer to the
Government of India for Guar-
anteed Railways at Lucknow, now on
special duty in Baluchistan.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

Lieutenant-Colonel W. Hiehens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

Lieutenant W. T. Stuart, Inter-
preter and Quarter-Master, Bengal
Sappers and Miners.

I do not think they would respond to the call to join their corps ;
but they would not make common cause against the Government.

See answer 35.

Taking this question generally from my experience of the Native,
I believe the great body would remain neutral, a few, either loyal or
discontented, joining the opposing factions.

As a large political question, there appears to me to be very great
danger to the State in a large reserve of trained soldiers of alien
races.

I am doubtful if the reserve could be applied. They would
possibly be divided in their opinions.

37. After what number of years' service would you pass a sapper into the
reserve, and how long should he be called on to serve in the reserve before being able
to claim a pension ?

Major-General F. R. Maunsell,
O.B., R.E.

I would pass a sapper into the reserve after eight years in the ranks,
and would call on him to serve 12 years in the reserve, or total 20 years
before being able to claim pension.

Major-General A. Fraser, R.E.

After twelve years' service with the colors, men should pass into
the active reserve ; after twelve years' service in the active reserve, they
should be required to serve six years more in the second or veteran
reserve, or a total of 30 years' service, to entitle them to pension.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Sappers should not be in the reserve.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers
and Miners.

I should pass every sapper into any such reserve as railway employ-
ment, Government telegraph, if passed a course of such, after 20
years' service. By this I mean that, as a rule, sappers have to lead so
hard a life, that they become physically unfit to keep up the excessive
duties demanded from them, but would be capable of carrying on
ordinary vocations of life. They should hence as a body be pensioned
off, the better men to ease the pension list might get preferments under
Government employ most suitable to their respective capacities, by
which both parties would gain, the Government by the services of a
quiet steady disciplined man, they by the quiet employment. After
20 years each sapper should be able to claim his pension.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal Sappers
and Miners.

Being doubtful on reserve system, I need not say more on this
point.

38. What pay should be given while in the reserve ?

Major-General F. R. Maunsell,
O.B., R.E.

I would give Rs. 3 and their good-conduct pay per mensem.

Major-General A. Fraser, R.E.

The pay to be given in the active reserve need not be more than one-
half of the pay, without batta or other allowances, given to men serving
with the colors.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Sappers should not be in the reserve.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sap-
pers and Miners.

Answered by no actual reserve.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal
Sappers and Miners.

As in answer No. 37.

39. (a) Do you think it would be an advantage to divide the reserve into two classes, the first liable to be called out for active service, and the second for garrison service only, the first class passing into the second ?

(b) If you consider that the reserve should be divided into two classes, what should be the pay of each class ?

(c) How long should a man serve in the first and how long in the second reserve ?

Major-General F. R. Maunsell,
C.B., R.E.

(a) I think so.

(b) I would give the above pay to the first reserve with a minimum of Rs. 3-8; Re. 1 a month less to the second reserve.

(c) He should serve five years in the first and seven in the second reserve.

Major-General A. Fraser, R.E.

I would, as stated above, divide the reserve into two classes, the active and the second or veteran reserve. The monthly pay in the second reserve should be one rupee per mensem, or 12 rupees per annum more than the pension to which the men would become entitled on completing their term of service. The term of service should, as stated above, be twelve years in the active reserve and six in the second reserve.

Sappers should not be in the reserve.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's Own"
Sappers and Miners, Madras.

Lieutenant-Colonel J. Mills,
R.E., Commanding Bombay Sap-
pers and Miners.

Not practicable with the sapper; for if young when passed into a reserve, he would not be available, and if old, would not be worth retaining.

Captain W. T. Stuart, Interpreter
and Quarter-Master, Bengal
Sappers and Miners.

(a) As in answer No. 38.

(b) I consider it would be wasting good money and men; good men do not come forward in such large numbers as formerly, and it is even now difficult to get good men to enlist; therefore, I am of opinion that the idea of a reserve for India may be put as ideas impracticable. Pensioners might in cases be found useful to protect lines, &c., when the army takes the field, but I would not go further than this. When the pensioners were up, I would give them the full pay of their rank and a warm coat or according to season.

(c) *Vide* answer to 37.

40. What percentage, if any, would you propose to retain for long service with the colors, and what should be the limit to that service ?

Major-General F. R. Maunsell,
C.B., R.E.

I would retain twenty-five per cent. with the colors for ten years as privates, for fourteen years as naiks, for sixteen as havildars.

Major-General A. Fraser, R.E.

I would not retain any men longer than twelve years with the colors, if twelve years be settled as the ordinary term of service.

Colonel H. N. D. Prendergast,
R.E., Commandant, "Queen's
Own" Sappers and Miners, Mad-
ras.

Sappers should, I think, be allowed a high rate of pension after 25 years' service, and few should be kept in the service longer.

Lieutenant-Colonel J. Mills,
R.E., Commanding Bombay Sap-
pers and Miners.

Answered by *no* reserve.

Captain W. T. Stuart, Inter-
preter and Quarter-Master, Bengal
Sappers and Miners.

Vide reply 39.

41. How many days' training a year should he have ?

Major-General F. R. Maunsell,
C.B., R.E.

Thirty days—working days—he should remain until that has been made up.

Major-General A. Fraser, R.E.

The reserves should be collected for thirty days' military training every year.

Lieutenant-Colonel R. de Bour-
bel, R.E., Consulting Engineer to
the Government of India for
Guaranteed Railways at Lucknow,
now on special duty in Biluchis-
tan.

Of course under my system the reserve sapper could not have any military training during the period of his employment on the public works, railways, telegraphs, and surveys. The first nine years' drill and discipline with the companies ought to set him up as a soldier. No employer of labor could possibly agree to the yearly absence of their servants at stated intervals, and it would be hopeless to carry out the scheme with this condition. It would seldom suit the convenience of the employer to give the man leave oftener than once in every three years, and then only when business is slack.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

Answered by *no* reserve.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

Vide reply 39.

42. Where should the arms, clothing, and equipment of the reserve sappers be kept ?

Where should the reserve man undergo his annual training ?

Major-General F. R. Maunsell,
C.B., R.E.

Their arms generally with their head-quarters ; perhaps the number should be limited. Clothing should be kept with the men, or they might pay a man to look after it at their head-quarters, or, if inconvenient, then wherever the nearest detachment of their corps may be.

Major-General A. Fraser, R.E.

The reserve sapper should undergo his annual training at the head-quarters of the corps ; and his arms, clothing, and equipment should, when not required, be kept at head-quarters in store.

See answer 41.

Lieutenant-Colonel R. de Bourbel, R.E., Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on special duty in Beluchistan.

At head-quarters of the corps.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

Vide reply 39.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

43. Have you any suggestions to offer as to the employment of the reserve sappers on railways, in workshops, arsenals, &c. ?

Lieutenant-General C. W. Hutchinson, Inspector-General of Military Works.

Assuming that the reserve system be adopted as feasible and advisable, and that the sappers have been recruited from artizan classes, the soldier at the end of his period of active service, having been originally a skilled workman, and having experienced the salutary influences of military discipline, regular drill, and a complete course of training in the special duties of a sapper and miner, should have developed into an intelligent and useful man, who could be advantageously employed in the lower subordinate grades of many departments of Government, in magazines, arsenals, on railways, &c. Such men would find a suitable field for employment in the military works branch as sub-overscers or head artificers on barracks, fortifications, military roads, &c. Here they would continue to serve the State, keep up some of their acquired skill and their habits of discipline, and would be at once available for further active service, should the reserves be at any time recalled to the colors.

Major-General F. R. Maunsell,
C.B., R.E.

I think the second reserve sappers might be employed on railways.

Major-General A. Fraser, R.E.

The active reserve of sappers I would employ as an organized railway police force, but clothed and equipped by the civil department. The second reserve might live at their own homes. On the outbreak of hostilities, the companies with the colors would be available for immediate action ; the railway police companies would be at once collected at head-quarters to be organized as a reserve ; and the second reserve of veterans would take the place of the railway police, as they should also do when the active reserve would be in training.

Colonel J. G. Medley, R.E., Consulting Engineer to the Government of India, Railway Department.

I think Sir Andrew Clarke's suggestion to have one State railway officered and manned entirely by military men, from the highest to the lowest official on the line, to be a valuable one, and quite practicable. Of course, civilians would have to be largely employed at first ; but soldiers (European and Native) might be taken into training, and would gradually replace the civilians. The men should be selected for good character and intelligence, and properly paid. Uniform should be invariably worn on duty, and the habits of military discipline strictly observed. The officers would, as a rule, be royal engineers ; and the men, or a large majority of them, might be reserve sappers, liable for

service with the colors in time of war, *i.e.*, such of them as could be temporarily spared from the line. The advantages to Government of having a body of trained drivers, guards, plate-layers, pointsmen, &c., all under military discipline and control, might often be very great, either for making and working railways in our own territory or in that of the enemy, in time of war. And during periods of civil commotion and disturbance they might be equally useful.

Endeavours should be made to provide employment for pensioned sappers on railways and in workshops. They are usually appreciated on railways. Such men would probably turn out to aid Government at any time without a retaining-fee.

Guaranteed railway companies, State railways, managers of workshops, superintendents of arsenals, and other employers of labor in the service of Government would be thankful to obtain the services of Native sappers for a long period, such as nine years, especially if they are skilled artificers, but not if the men are obliged to absent themselves for annual military training. This condition would nullify any advantage, and no employer of labor would submit to it. Railway companies might also object to take many men into their permanent service who are liable to be called out at short notice to quit. The result would be that they would take few of the second nine-year men, but more of the fourth nine-year men, who would be the last to be called out. As the operations of public works generally are reduced in time of war, there would not be the same objection in their case to the withdrawal of the workmen to join the army in the field.

I am of opinion that it would be a very great inducement towards the enlistment of a higher standard of men were appointments in Government employ thrown open to men in the sappers who had qualified themselves for such after a certain number of years' service. They would be of great use to the Indian railways, as they would be steady, well-disciplined men, accustomed to use their senses; and the more Government employ is thrown open to the sapper, the better for both the Government and the corps.

Sappers should only be employed on military works (including of course roads, barracks, &c.), under their own officers.

I consider that many sappers, both non-commissioned officers and privates, could be most usefully employed as pointsmen, surface-men, and otherwise on the State railways. Rs. 4, the maximum pension given to a man, is not sufficient to keep body and soul together. They very often mortgage their pensions; and are, to my personal knowledge, very hard up all the year round. Even the pension of Rs. 7 per mensem given to a non-commissioned officer who has been in the receipt of Rs. 15 or Rs. 20 is not sufficient. I consider the proposition or suggestion made in this query is, if carried into effect, likely to bear good fruit.

A certain number of reserve sappers might be advantageously employed on railways, but only in such posts as ticket-collectors, watchmen, &c., where their sudden withdrawal would not interfere with the working of the line.

There would be a difficulty in employing them in railway working proper, as such men as guards, pointsmen, signallers, &c., require special training and experience before they are of any use, and it would be difficult to replace them at short notice, or to dispense with their services from time to time.

44. Would the reserve system be popular with the Native army?

Major-General F. R. Maunsell,
C.D., R.E.

I believe a well-arranged system would be very well received. The serving long years in the ranks does not appear to be desired so much as it used to be, and the idea of practically getting pensioned after eight years would be popular, I think, to a considerable extent.

Major-General A. Fraser, R.E.

I do not believe that the reserve system would be popular with the Native army, unless employment were provided. A Native army is chiefly recruited from the fighting castes, and unemployed men would not readily take up other pursuits, while in idleness they would be a source of anxiety and danger to the community. By employing them in the police, one-half of their pay might be met from the civil estimates, yielding a very large relief to the army estimates without any additional burden on the country.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

Lieutenant-Colonel R. de Bour-
bel, R.E., Consulting Engineer to
the Government of India for
Guaranteed Railways at Luck-
now, now on special duty in
Beluchistan.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sap-
pers and Miners.

Lieutenant-Colonel W. Hish-
ons, Commanding Royal Engin-
eers, Southern Afghanistan Field
Force.

Captain W. T. Stuart, Inter-
preter and Quarter-Master, Bengal
Sappers and Miners.

Lieutenant H. H. Pilkington,
Acting Deputy Consulting Engi-
neer for Railways, Bombay.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

Any scheme that results in obtaining a man a pension would be popular with the peasants of the Madras presidency; but I doubt much whether reserve soldiers would be forthcoming when wanted.

Probably so in the North-Western Provinces. I should think not so in Bombay and Madras.

That is the question! I doubt it very much.

45. Please state your views on the general question of employing soldiers, European or Native, on Indian railways; or the formation of railway companies of engineers and sappers, &c.

Major-General F. R. Mansell, C.B., R.E.

The employment of soldiers, European and Native, would be a good thing, provided the men so employed were not liable to be called away to join their colors. The railways would be wanted to work at increased pressure in war, and the staff would require increasing then.

I do not think that railway companies of sappers are so much wanted as general service companies; but if railway companies were to be considered liable for general service, I would think it advisable to try them.

Major-General A. Fraser, R.E.

I am quite of opinion that sapper and pioneer regiments may properly be employed on difficult railway construction and on military roads; but I would not employ them on railway management or working, whether as regards the troops with the colors or the reserve, simply because, if war broke out, we should have to move the troops to the front, and there would be no skilled men left to work the railways.

Colonel J. G. Medley, R.E., Consulting Engineer to the Government of India, Railway Department.

This question has been partly answered in my reply to question 43. A railway sapper company (*i.e.*, of men with the colors) might be very useful in time of war or civil commotion, when our railways might easily be damaged by insurgents. The men should be trained to repair or relay the rails, points, and crossings, to erect and work signals, to lay in diversions, make temporary bridges, repair rolling-stock, &c.; and a certain number of them to act as drivers and guards. Much of the necessary instruction could be given at the sapper head-quarters; the rest would be best acquired by temporary transfer to the military railway above recommended.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

I am quite in favor of employing soldiers, European and Native, on Indian railways. Such employment develops their intelligence, increases their self-respect, improves their health, and adds to their income. Engineer militia companies should be formed on the railways of the Madras presidency.

Colonel the Hon'ble C. J. Merriman, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

I do not think European soldiers could be successfully employed on Indian railways. Native soldiers might indeed; but I would advocate Native sappers with European engineers only being so employed; and I would never keep companies of sappers on such work away from head-quarters for more than one year at a time, so that the men might never lose their efficiency as sapper soldiers.

Lieutenant-Colonel R. deBourbel, R.E., Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on special duty in Beluchistan.

My attention has long been given to this question, but it is not easy to frame a working scheme.

In the first place, on war breaking out, all soldiers of infantry, cavalry, and artillery, whether European or Native, are wanted as combatants, must return to their regiments or batteries, and cannot be spared for railway duties.

Of the reserve sappers, under the system I propose about one-third might be required at first for the army, while the rest might continue in the employment of the public works, railways, telegraphs, and surveys, though these also would be liable to military service if required.

In the event of invasion or of insurrection in any province, the amount of traffic for military purposes on any railway leading to or passing through it may suddenly become so augmented, that the establishment, even when reinforced from all local sources, will prove insufficient to cope with the work. This railway cannot evidently spare one man; and it would be a great advantage to it if a relief of trained men could be obtained from any source.

Should the enemy advance into the country, and the service on the railway become perilous to those employed, the civil labor might shrink and desert; and the presence of a few skilled and trained soldiers among them, coming in as a relief and aid, would encourage, give them heart, and might induce many to remain. In the case also of an army advancing into foreign territory and taking possession of a railway, deserted probably by all its employés, the only means by which the railway can be utilized would be to have a body of skilled soldiers ready at hand, who could at once occupy and work the line with any rolling-stock found and made available.

In case of necessity the railway corps might occupy the whole or part of a railway, and work the latter for military purposes.

There might be one railway corps for all India at first, constituted as follows. The particular railway duty assigned to each individual is entered in the margin of the table. The numbers are approximate, and calculated on the strength necessary to maintain and work a railway 200 miles long, single line, in time of great pressure from military traffic during both day and night. A large number of menials to aid in working the railway are shown ; but it would not be necessary to maintain the whole of these as a permanent establishment during peace.

Establishment of one corps of railway sappers on a war footing.

Railway duties.	Detail.	Officers.	Non-commissioned officers.	Sappers.	Menials.	Total.	Remarks.
1 Manager ...	British officers	12					
1 Chief Engineer ...							
3 Engineers, Maintenance							
1 Traffic Superintendent ...							
1 Locomotive and Carriage Superintendent ...							
1 Telegraph Superintendent							
1 Examiner of Accounts...							
1 Surgeon ...							
2 Reserve ...	British non-commissioned officers...	20					
1 Secretary to Manager ...							
2 Traffic Inspectors							
1 Telegraph Inspector ...							
3 Locomotive Foremen ...							
2 Carriage " ...							
6 Engine-drivers ...							
2 Station-masters ...	Native officers	12					
1 Secretary to Examiner ...							
2 Reserve ...							
1 Assistant to Manager ..							
1 Assistant to Chief Engineer ...							
1 Police Superintendent ...							
1 Assistant Traffic Superintendent ...							
1 Assistant Locomotive Superintendent ...	Native non-commissioned officers	60					
1 Assistant Carriage Superintendent ...							
1 Paymaster ...							
1 Store-keeper ...							
1 Assistant Examiner ...							
1 Assistant Surgeon ...							
2 Reserve ...							
1 Head Clerk to Manager							
1 Ditto to Chief Engineer							
6 Permanent-way Inspectors							
2 Police Inspectors ...							
4 Locomotive Inspectors ..							
4 Carriage Inspectors ...							
6 Telegraph Head Signallers ...							
8 Head Station Masters ...							
8 Head Train Guards ...							
6 Marshalls of trains ...							
4 Accountants ...							
2 Cashiers ...							
2 Store Inspectors ...							
2 Apothecaries ...							
4 Reserve ...							

Establishment of one corps of railway sappers on a war footing—concluded.

Railway duties.	Details.	Officers.	Non-commissioned officers.	Sappers.	Menials.	Total.	Remarks.
3 Clerks to Manager ...	Office clerks and buglers	40			
2 Clerks to Chief Engineer							
1 Clerk to Telegraph Superintendent							
5 Clerks to Traffic Superintendent							
6 Clerks to Locomotive and Carriage Superintendent							
6 Clerks to Maintenance							
1 Clerk to Police Superintendent							
3 Clerks to Pay Cashiers							
1 Clerk to Surgeon							
5 Clerks to Examiners							
1 Clerk to Store-keeper	Station staff	150	80	...	Peons, sweepers, bhisties, &c.
6 Buglers							
30 Office menials							
32 Station-masters							
30 Telegraph Signallers							
20 Goods Clerks							
6 Reserve							
6 Line Jemadars							
56 Points and Signal Men							
30 Station menials							
28 Guards	Train staff	60	80	...	Sweepers, watermen, peons, bearers.
24 Travelling Pointsmen							
8 Reserve							
20 Train menials							
30 Engine-drivers							
48 Firemen							
40 Mechanics							
10 Fuel Sub-Inspectors							
12 Reserve							
50 Locomotive menials and fuel khalasies							
4 Carriage Examiners	Carriage staff	40	50	...	Sweepers, greasers, fuel coolies, &c.
30 Mechanics							
6 Reserve							
20 Carriage menials							
20 Gangs of platelayers for line, 120							
4 Extra ditto for station, 24							
6 Reserve							
20 Maintenance menials							
130 Gate-keepers							
4 Mounted Constables							
30 Mounted Patrols	Police staff	70	150	...	For level-crossings. Patrols for line; foot police for guarding station stores, goods, &c.
30 Foot Watchmen							
6 Reserve							
Total	...	24	80	650	350	1,104	

In time of peace, each railway corps complete would suffice to take charge of a railway with ordinary traffic about 400 miles in length. As the sudden withdrawal of the whole corps to war duties from one line might stop the working of the latter and cause serious inconvenience to the public, it would be better to distribute the members of the corps among several lines of railway, keeping the head-quarters and three companies separate at some convenient centre where there are large railway workshops, and, on war breaking out, to summon the whole to join the colors at some arsenal where they could assemble, receive their arms, ammunition, tools, &c., and prepare to march.

To ensure military training, the British officers and non-commissioned officers might be drawn from the royal engineers; the Native officers, non-commissioned officers and privates from the sappers and miners after four years' service with the companies. The peace establishment, *viz.*, head-quarters and three companies, would continue the military training of the men until each has completed nine years of service, when they would pass into the reserve.

Service in the railway corps should be equivalent in every respect to service in the companies of sappers and miners.

Lieutenant-Colonel A. M. Lang,
R.E.

As pointed out in answer to question No. 9, the sappers and miners, military works department, and trigonometrical survey will not employ more than about 150 officers of royal engineers; and as over 400 officers of that corps serve in India, employment must be found in branches of public works other than military for a very large number of officers.

The railways seem the most fitting field; and some lines of railways should be surveyed, constructed, maintained, and worked *entirely* by a royal engineer staff; officers and non-commissioned officers and privates of royal engineers and men of the sappers and miners forming the staff of the line. The training acquired by officers and men would be invaluable for military purposes. If the reserve system be adopted, these royal engineer railways would give a suitable field of employment for the reserve sappers.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

I do not think, from the want of training materials, and the comparative ignorance of the present men, that the sappers and miners, as a body (as the Prussian railway battalion), could for some years be employed; though I am of opinion that such an aim ought in the future to be kept in view (some of the smaller State railways; say the Kanjam or Oomarawtee lines, might be so worked); but I am quite certain it would be a great inducement and incentive to a higher class of men entering the sappers and miners were a fair proportion of berths thrown open in railways, telegraph offices, &c.; and as at home berths of real practical value are open to each sapper's effort; so on this side were men allowed to pass on to such, a very great advantage would be obtained by the army at large by the increased intelligence of the engineering branch. These effects would not, however, be perceptible for some years, as the Native is slow to seize an advantage like this were it offered.

Lieutenant-Colonel W. Hitchens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

My views will be found at great length in a voluminous report which I signed as president of a committee assembled in Calcutta and Simla to consider this subject in 1878.

It is a very difficult and intricate question. The requirements of the railways could only be met by the formation of a special corps.

Lieutenant-Colonel D. Limond,
R.E.

I do not think the Native soldier at all suited to employment on Indian railways; steady Europeans, on the other hand, get on, I believe, very well. Railway employes in troublous times would be required at their posts, and such training as can be given them should be as riflemen and not as sappers.

Lieutenant-Colonel W. H. Eurtou, R.E.

I do not think it would be found advantageous to employ Native sappers in any large degree on railways. I would rather confine them to the more narrow but proper duties of sappers in cantonnements (as indicated in my reply No. 32) in peace time, at the front in war; but of course there could be no objection to sappers executing particular portions of repairs to railways and of sections of new lines on occasion.

Captain W. North, R.E.

I should be much opposed to this. It would not seem to be very necessary in India, and there is no doubt that a large number of the soldiers, either British or Native, would deteriorate to a great extent.

Captain J. Dundas, R.E.

I believe this matter has been reported on by a special committee. But it seems obvious to remark that the chief object of training soldiers to railway work is, that they should be fit to make use of an enemy's lines in an invaded country, and to keep them open till the country is settled enough to allow civil establishments to come up from the rear to work the lines. But an Indian army is not likely to see any railways except those belonging to our own Government and already working with an efficient civil staff. I think it would be a mistake to interfere with the civil staff in such circumstances; though there is an obvious advantage in having officers (consulting engineers) intimately acquainted with the railways, and able, if need be, to exercise a general control over their working.

Captain W. H. Pierson, R.E.

A great objection to the employment of reserve soldiers on railways is, that calling out these men, when war is declared, cripples the establishment of the railway exactly at the time when the greatest strain is laid upon it. The formation of railway companies of engineers is desirable, if carried out on a sufficiently large scale to be really effective. The present railway rifle volunteers might also be converted into volunteer railway battalions, being already skilled in the work that would be required of them as guards, drivers, &c. For executing the heavy work of embankments, cuttings, &c., I would always employ paid civilian labor.

Captain H. H. Cole, R.E., Executive Engineer.

For strictly military railways, and for temporary tramways for military purposes, and for any questions of purely military communications, I think the organization of working companies would be of the utmost

value; but for ordinary railway works I consider the best and most economical way is to proceed by contract. I think it would be difficult, but not impossible, to make military labor available for contractors' purposes, and each case would have to be treated on merits and exceptionally.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

Lieutenant H. H. Pilkington, Acting Deputy Consulting Engineer for Railways, Bombay.

I would give able and healthy men considered unfit for the active duties in the field a fair trial; and feel sure that many men of the sapper corps, British and Native, would turn out well and give satisfaction.

The formation of railway companies of engineers is, I think, very desirable. They might be instructed in all matters connected with the construction of a line at their own station; and for training in the practical working of a railway, a company or detachment might be told off to work and maintain a section of a State line. They would thus be instructed in relaying and repairing the line, and in the working of points, signals, telegraphs, &c.

46. Please give exactly the organization you possess with the sappers for—
pontooning and bridging (ordinary and light equipments),
telegraph,
field engineer park,
siege park,
and give general lists of your *matériel* for these services.

Major-General F. R. Maunsell, C.B., R.E.

Pontooning and bridging.—Two companies are laid down as pontooners, but the requirements of the service for general service duties have not allowed of their being kept to this duty. No. 10 Company at Kandahar is efficient as a pontoon company, and has a few pontoons and trestles with it. No. 9 was, but has nearly lost all recollection of the art.

There exists about seventy yards pontoon bridge, Pasley pattern, eighty yards new pattern, and fifty yards trestle bridge; total two hundred yards.

There are also some sixty-four bullocks attached which enable a few carts to be taken out for practice. Four hundred would be required to move the whole two hundred yards.

A careful revision of the pattern of pontoon bridge has been under preparation for several years. A special committee reported upon this: *vide* Commandant of Sappers' letter No. 292* of 14th May 1877, to the Adjutant-General. Approval of the patterns have not yet been formally accorded.

Meanwhile such measures as have been possible have been taken to make the train as complete as possible. Under the circumstances, some of the equipment to complete two units on the new scale was estimated for, and some progress made in constructing the same.

But no pontoon training is now going on. The impossibility of maintaining complete efficiency for a military bridge train without transport, and the great difficulty of obtaining suitable transport, and also the superior importance of general service duties and equipment, put this organization in the background to some extent.

I think that the experiences of this campaign will indicate a reduced train compatible with a supply of transport.

Telegraphy.—A company was appointed telegraph company and the equipment, &c., for one unit train sanctioned under letter No. 909S., dated 21st September 1878. This train was sent to Kandahar. A similar train was sanctioned under letter No. 1240S., dated 28th September 1878. This train was with No. 1 Division, Peshawar Field Force. After the campaign this unit was broken up, most of the stores ordered to be sent into arsenal, so that only No. 1 unit with Kandahar Column stands organized.

A careful revision of the detail, upon the experience gained, is going on under the orders of the Commandant of Sappers.

The system and detail of equipment were modified to meet the Afghan campaign, of which approval was conveyed to me. So many items of equipment have required to be modified, that the old lists of this equipment are almost useless. The new lists under consideration will show a great improvement in every respect.

But I would refer to a full report on the subject submitted to the Quarter-Master-General with my letter No. 825 of 11th August last.

The field train and park is on the scale sanctioned according to the printed table published under authority of Government in 1870. A

* Not printed.

certain equipment is attached to each company, the officer commanding the company being responsible for the charge and good order of the same. Improvements have been made as to the transport vehicles for this equipment; but to render the equipment fully efficient for service, a few good mules are necessary.

Siege parks.—No organization for field trains for the army, except sappers, nor for sieges exists. The tables above published however contain tables of siege equipment; and I lately submitted a revised report on the requirements for a division in the field: *vide* my No. 834 of 30th August last.

Mention should be made here of the workshops attached to the park and train. These shops have been established since 1863, and have been of the greatest advantage to the corps and the service. They furnish a ready means of making up special equipments and trying various experiments, of promptly repairing and making up deficiencies in the field equipment of companies, of employing usefully artisan soldiers and of training others, and of practically demonstrating to officers what can be done by the men and materials available in India. The extensive Government foundry and shops at Roorkee have contributed greatly to the efficiency of this department of the corps.

All the bridging train, including carriages and much of the field telegraph train, have been thus constructed with regimental supervision.

In order to set these shops going, and to increase their power, private orders were taken in; and so well has the system been supervised by the officers and warrant officer (Lieutenants Clayton, Harvy, Captain Blood and Lieutenant Brown, R.E., and Mr. Connell, sappers and miners), that a considerable amount of material including a steam engine, besides some clear balance of money, stands to the credit.

The regular work of the park is also rendered simpler by this arrangement; for instead of employing workmen on miscellaneous jobs with no system, a simple indent or order is made on the engineer shops.

This system has been thought so well of, that I believe it has been followed lately to some extent at royal engineer head-quarters, Chatham.

A printing press, also photograph apparatus, arranged for the field, are also attached.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

In the Madras presidency there is no organization for pontooning and bridging, telegraph, field engineer park, or siege park. There are no pontoons, but there are some casks and spars for practice; also a few miles of insulated wire, telegraph instruments, gun-platforms, gabions, mining cases, &c., for practice at head-quarters, but no equipment is ready for active service.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers
and Miners.

Pontoons we have none whatever, neither men, horses, harness, wagons, boats nor equipment, &c.

Telegraph train is exactly the same; we have not the smallest article.

Field engineer park.—The same.

Siege train.—The same.

The only stock we possess is shown in the accompanying list.* Nearly all is old and worn out, but even such as it is we cannot get it replenished: see circular No. 222, dated 10th January 1877, in which the ordnance department declares all our authorized equipment is simply company field service as detailed in "Tables of sapper equipment," and which is not sufficient for the company, much less corps.

* *Pontoons and bridging stores.*

44	Demi-pontoons	...	...	All utterly unserviceable.
57	Baulks	...	...	Nearly all "
80	Chesses, whole	...	...	" "
10	" half	...	...	" "
18	Hooks, boat	...	...	Fair order.
18	Ontriggers	...	...	Unserviceable.
16	Saddles	...	...	"
28	Anchors of sizes	...	...	Serviceable.
1	Large boat, six oars	...	...	"
15	Standards of sizes	...	...	} Trestle-bridge gear; all nearly unserviceable.
3	Transoms	...	...
15	Baulks	...	...
17	Barrels	...	...
5	Gunnels	...	...
30	Baulks	...	...	} Barrel-pier gear; portion in fair order for practice.
51	Chesses	...	...
35	Oars	...	...
8	Transoms	...	...

<i>Telegraph stores on charge.</i>			
35	Drums	...	(Including 15 covered with insulated wire.)
25	Coils galvanized wire	...	Unserviceable.
5	Field service ink-writers	...	
4	Sounders, portable	...	
4	Deal-wood boxes, complete	...	
8R	Batteries, portable	...	
4R	Detectors, galvanometer	...	
38	Couplings for wires	...	Few, if any, of these fit for service.
5	Batteries, M. B.	...	
70	Insulators for trees	...	
4	Wire reels	...	
<i>Mining, magazine, &c., stores.</i>			
90	Mining frames	...	
61	Sheeting planks	...	
51	Magazine frames	...	All long in use for instructional purposes.
168	Splinter proofs	...	
6	Gun or howitzer platforms.	...	
3	Mortar platforms.	...	
231	Teak spars of sizes.	...	
<i>Engineer park and siege train stores.</i>			
280	Axes, pick.	447	Gabions, Jones'.
1,000	Sand-bags.	50	Barrows, hand (20 unserviceable).
5	Ladders, rope, mining.	17	Hoes.
5	Mattocks of sizes.	30	Spades, handspikes, &c.
<i>Surveying instruments.</i>			
4	Theodolites.	4	Marquois scales.
3	Telescopes.	6	Brass protectors.
2	Beam compasses.	24	Parallel rules of sorts.

47. Please quote the orders laying down the equipment and *matériel* generally for pontoon and bridging trains, telegraph trains, engineer field parks, siege parks, &c.

Major-General F. R. Maunsell,
C.B., R.E.

Original formation of pontoon train and of two companies of pontooneers—letter No. 553 of 14th March 1854, from Secretary to Government to Quarter-Master-General.

Committee to report on pontoon and trestle bridge—G. O. No. 100 of 10th January 1870; report sent in Commandant of Sappers' letter to Quarter-Master-General, No. 292 of 14th May 1877.

Original authority for military telegraph—despatch from Right Honorable the Secretary of State to His Excellency the Right Honorable the Governor-General of India, No. 34, dated London, 31st December 1867.

Formation of a definite unit train and of a field telegraph company—letter No. 909, from Secretary to Government to Quarter-Master-General, dated 21st September 1879; and of a second unit—letter No. 1241, dated 28th idem, from same to same.

Modification of equipment to suit Afghanistan approved in Quarter-Master-General's No. 5637A., dated 1st November 1878.

Engineer (sapper) equipment and siege train tables published in 1870, under authority of Government.

Colonel H. N. D. Piendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

There are no orders in Madras laying down the equipments and *matériel* for pontooning and bridging trains and telegraph trains. As regards siege trains and company equipments, G. O. No. 41 of 7th January 1874 is the guide.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

At present there are no orders for the equipment of pontoon and telegraph trains or field park. Tables of sapper equipment drawn out nine years ago give detail of company equipment and 1st, 2nd, and 3rd class siege trains; but I have received lately Quarter-Master-General's letter (with tables attached) asking for a review on certain tables of trains drawn out in Bengal. I have forwarded papers on each except siege park. In addition, I have forwarded the general equipment necessary in a railway company, and further tables I to VIII, marked R, which give the necessary plant for purely instructional purposes.

48. Supposing that it were decided that the corps of sappers and miners in your presidency were to place in the field the several details of field park, pontoon, and telegraph train, within what time do you consider that they could be equipped and set in motion?

Major-General F. R. Maunsell,
C.B., R.E.

The general service equipment of companies are always kept ready, only wanting transport. All engineer equipment with the sappers is ready to take the field the moment transport is supplied.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

If the corps had to place in the field suddenly a field park, pontoon, and telegraph train, I should indent on the Madras arsenal for them, and should be told that there were none in store, but that I could have a third class siege train, according to the Bengal tables. Before sailing for the Mediterranean, I indented for a third class siege train, table I, and for company equipments for two companies under table II, and took the electric apparatus and wire that was at head-quarters for practice, and added a few things that were wanted, for which Government gave special sanction.

The pontoon and telegraph train would arrive from England in three or four years; the siege train would be ready in about a week.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

This is a very difficult question to answer, as the corps does not possess a single article of the stores I consider necessary. I do not believe the ordnance department have to hand any of the really important articles (not in Bombay), such as pontoon boats, wagons, wire, gun-cotton, &c.; but it would be better to refer to them, and enquire what they really had got. When a small field park was made up for the Malta expedition, all but the simplest plant was unattainable; and even that was of most ancient pattern.

The Officer Commanding No. 5 Company in the Malta Expedition reports: "I think that the tables of stores now authorized for a company of sappers require a most thorough revision; they are not suited to modern warfare. I would also point out that the ordnance department appear to be unable to supply even the present equipment. No. 5 Company was by no means properly equipped when proceeding to Malta."

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

I don't quite understand this question. If the sappers and miners had to place a field park in the field, that park must be kept at its full strength at head-quarters, and could be placed in the field as soon as transport was provided.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

The great drawback is the want of a proper and organized transport train. No body of men, far less the material of park, pontoon, or telegraph train, can be moved without a properly organized transport. No description of animals can be trained in a short time. Horses, bullocks, mules, all require training; so do their drivers. The whole matter is in a nutshell; provided the transport keep it in marching order, and either train is ready to move as soon as the men. This must be done before long, and the sooner the difficulty is faced the sooner will it be overcome. At present there is no attempt at a proper organization of transport for sapper trains.

49. Please state the date on which you received the order, or knew that the companies ^{Bengal} ^{Madras} ^{Bombay} sappers and miners were to proceed on field service in Afghanistan.

Detail the steps taken by you to complete the companies for service, and when they left.

Major-General F. R. Maunsell,
C.B., R. E.

The system under which the general and bridging equipment existed, and notably the power added by the engineer workshops, enabled me to despatch three companies to Mooltan and the head-quarters and two companies to Peshawar immediately they were ordered; that is, on the earliest date allowed by the order, without any delay at all. Very heavy work was entailed in the field telegraph business, owing to the lateness of the sanction; but by help of the workshops the difficulty was got over, and I think I may take the credit in believing that so complete and extensive an equipment has never been prepared in a shorter time.

One unit moved to Mooltan. The second unit was ready for the field by the middle of November.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

The B and E Companies received orders to be in readiness for service on the 19th November 1878. After medical inspection and weeding the companies of unfit men the complement was obtained of sound sappers. Valise equipment was obtained from the Madras arsenal, and the company equipments were as far as possible completed. The B and E Companies left Bangalore on the 5th December.

The C and K Companies were warned on the 15th December, were similarly strengthened by the substitution of good men for the old and weak; and the K left Bangalore on the 19th December. The company equipments were supplied by the Madras arsenal just in time to be taken towards Afghanistan. Personal equipment, except waterproof sheets, were supplied before leaving the Madras presidency.

Lieutenant-Colonel J. Hills, R.E.,
Commanding Bombay Sappers and
Miners.

No. 2 Company received orders to be held in readiness on the 15th November, and left Kirkee on the 6th December 1878.

No. 5 Company received orders on the 27th December, and started on the 13th January 1879.

Under this present system, it takes three or four days to get a company off for service. If, however, proper arrangements were made, about 1½ days would suffice.

On receipt of the orders, I forwarded the accompanying letters* to Major-General Primrose, Commanding the Division at Poona, who was to command the Bombay Reserve Column, requesting certain matters of equipment, &c., might be obtained. The companies, however, had to leave as they were then equipped.

* Letter No. 1115A. of 1878.

Letter No. 1120A. of 1878.

Letter No. 657Q. of 1878.

No. 1115A., dated 26th November 1878.

From—The Officer Commanding Bombay Sappers and Miners,

To—The Station Staff Officer, Kirkee.

With reference to the orders issued to hold a company of sappers in readiness for service, I would draw attention to the following remarks, and request sanction to the several suggestions.

2. At present, under the peace organization of the corps, there is only one officer, royal engineers, Lieutenant Rice Henn, in command of No. 2 Company. At least one other officer, royal engineers (Mr. Waller or Mr. Young), should be attached to the company, as three would be greatly preferable. Were Mr. Waller or Mr. Young attached early, it would tend to push forward matters. The third officer may be obtained either from one of those arriving from Cyprus, or from one of the young officers ordered out from home, who would arrive in sufficient time to accompany the force.

3. Another young engineer officer should accompany the field park for the three companies of sappers. He should have under his orders a conductor (for whom I would beg to recommend Mr. Fox) and a few sappers, lascars, and artificers. A table of equipment containing the details of officers and men and materials will be forwarded for approval in a few days.

4. I would next bring to notice that the Europeans attached to the sappers have no valises or valise equipment, and have simply the old condemned heavy pouch, with nothing else. Those sent to Malta had kit bags furnished them; but this is not what is now demanded: it is the valise and valiss belts, straps, &c., in order that the men may carry some few personal effects on themselves. The kit bag is carried by the transport, and may not be available for hours—nay days.

The large condemned pouch should be exchanged for the new system of two small pouches in front. 5. It has been frequently pointed out, and is a subject which has been so often ventilated as to require simply mention, *viz.*, that a sapper has not only to undergo the fatigues of marches similarly to the infantry, but has often to work for several hours. His accoutrements weigh rather more than that of his comrade of the line; and yet in addition he has to carry a tool or entrenching implement of some sort. He is further oppressed and burdened by the drag and pressure of some extra straps, &c., which are necessitated by the extra weights and materials he is forced to carry. Hence to prevent complete prostration it is essential to ease him to the utmost extent in every practical way. For this purpose I beg leave to alter the present equipment of the Native sapper, and substitute the Oliver system,—not all the bags, &c., but the general arrangement of the fixtures, in order that the sapper may carry his tool and his great-coat without the severe pressure now entailed, and that he may get rid of the terrible and cumbersome pouch in rear which prevents the tool or great-coat from being satisfactorily placed. If the Oliver equipment is not sanctioned, it is earnestly urged that the new valise equipment may be ordered. Anything would be better than the present condition, the practical result of which is annihilating.

6. Permission is requested for the issue of a turban to be worn over the forage cap: the small *puggree* now adopted does not sufficiently protect the head from cold. Working clothes of a warmer material are being made. *Putees* for the legs and canvas gaiters are required.

7. The amount of cooking utensils allowed per Native company is 160lbs. As the sapper company has been increased to 105 men, 210lbs. will become the proportionate allowance. This is very far below the sanctioned scale; and hence permission is demanded to institute and carry out the requisite alterations in their present cooking utensils to meet this weight. The committee report of 1876 recommended 1lb. weight per sepoy. This would raise the allowance to 350lbs. per company; but still further reduction will have to be made in the weight of cooking utensils as proposed by the Committee, to suit the emergencies of the present service.

8. As the sapper requires a working suit in addition to the equipment of other soldiers, I have to request that sanction may be obtained for him to be allowed in addition to the usual 10lbs. the weight of a complete working dress suit. The exposure and necessary accidents and tear and wear of daily work are most destructive to ordinary clothes, so that in truth he requires an extra suit. The extra weight entailed, considering the small relative number of sappers, is but small.

9. Further, I would respectfully point out that the more the work demanded from any engine, the more the supply of coal is necessitated. Hence, as the sapper is employed on heavy and continuous manual labor, where the waste of strength and tissue is great, I would beg to request sanction that an addition to the ordinary Native ration may be allowed him either of meat to those who will eat it, or of some other substantial substance; and that to those who drink spirits a small tot of rum may be daily issued, to others who may prefer it, a small daily issue of coffee or cocoa or tea. The work performed by an underfed and ill-conditioned man is not only little in quantity, but generally indifferent in quality, as the necessary energy is wanting.

10. Accepting the valuable report of the Committee of 1871 as published in the Roorkee Equipment Tables as a basis for working and applying to it the results of the Royal Engineer Committee's reports, as embodied in the army circular of 13th December 1877, which it may be said were specially published in anticipation of immediate service, I have after careful deliberation and thought drafted two tables, one for the complete equipment of a company proceeding on service, the other for a small field park to accompany the head-quarters of a small force, from which engineering stores, &c., may be drawn. This latter is totally distinct and apart from a siege train, for which a table, if considered necessary, will be drawn out. It merely furnishes the probable immediate wants of a small force on service for ordinary movements.

11. I am well aware of the fact that the ordnance have not in the arsenal many of the stores laid down in the tables, such as Berthoin's collapsable boats, the two rafts of Blanchard's light infantry pontoons, a sufficient and new supply of gun-cotton, &c., &c.; but if these items are ordered at once from England, they would arrive before the assembly or advance of the force beyond our borders. With regard to the latter material, gun-cotton, I would point out that it is four times as effective, weight for weight, as gunpowder, and hence will save carriage most materially, as a large quantity of explosive mixture is necessary.

It has, however, to be carried in water-tight boxes; and hence a small ammunition wagon will have to be constructed for its transport. Enough could be carried by one or two light wagons, drawn by two mules each.

12. Finally, I would respectfully observe that in all other armies, as well as in England, each engineer officer is allowed a certain extra amount of weight on account of the several books of reference, instruments, &c., &c., he is supposed to take along with him wherever he may be sent. Nothing has been apparently mentioned concerning this; and hence sanction is now requested for the usual amount of excess, as is granted in the English service.

In forwarding these recommendations, I trust I shall not be considered to demand more than is necessary, as contrasted with other Native soldiers. I would only observe that sapper requirements are special, their duties under all circumstances heavy; that during peace their extra working pay enables them to live better and eat more, but that this latter resource is denied him on service, as he cannot obtain the extras he can during peace in cantonment; and hence at the very period his services are most required, he is liable to be placed in a position in which he cannot realize his necessary wants, and hence his physique must deteriorate unless some arrangements are made for him.

Finally, I would point out that the companies just arrived from Cyprus are armed with the Henry-Martini rifle; and I would beg permission, as I have been given to understand is to be carried out with the Madras companies, to hand over the Henry-Martini rifle of these two companies to the company ordered on service, so that the men may have all similar weapons. The corps, having once received them, would suffer in *esprit*, and would lose confidence in themselves if armed with the artillery carbine.

No. 1129A., dated Kirkee, 29th November 1878.

From—The Officer Commanding Bombay Sappers and Miners,

To—The Assistant Adjutant-General, Royal Artillery and Royal Engineers, Poona.

Though not appointed to the field force which has been placed under orders for service, I consider it my duty, as the senior officer on military duty, to lay the following observations before His Excellency the Commander-in-Chief in relation to the field park equipment which has been sanctioned by the Government of India to accompany each column moving to the front.

2. There are three items, "intrenching tools," "survey instruments," "laboratory stores, &c.," weighing about 182 cwt., or the load of 70 camels, which have been simply arrived at by doubling the equipment for a European regiment of 800 men, as set down in table 5, page 29 of the Roorkee Equipment Table.

3. This equipment was drawn up in 1870, since which time many ideas have altered, and was moreover intended not in any way as a representative of a field park, but what a regiment without any sappers or engineers, separate by itself, should carry. With all due deference, I would point out that it has been formed on too extensive a scale for purely intrenching tools to the forces or columns, and is wanting in also the most necessary light and important materials which make up the perfection of an engineer train.

4. After the disussion on "experiences derived from the late wars," the home authorities detailed early this year a supply of intrenching and other tools to each regiment of 1,000 men. This supply is well considered, and ample to meet all practical wants. They are—

Axes, felling	...	25	Axes, pick, light	...	150
Axes, hand	...	54	Bars, iron	...	4
Hooks, bill	...	56	Shovels, light	...	150
Mallets	...	8	Shovels, heavy	...	9
Axes, pick, heavy	...	6	Spades	...	10

Allowing that one-third of the force was on detached duties, on guards, and one-third as supports, and one-third on works, double of the above number would furnish ample for the division or column for ordinary field-works. For extraordinary cases 25 per cent. in excess would answer. The total number thus supplied would be considerably under the weight of the field park sanctioned; and the balance, if made up of other articles necessary for work, would tend greatly to increase the efficiency of the force.

5. In the list of stores which follow the above three items, there is nothing of weight or moment, excepting the sealing ladders (in addition to which, or in substitution for which, a few of the longest and strongest bamboos should be taken), till we arrive at the items of powder, fuze, &c., on which the following remark is made—"if required, &c." From the nature of the country in which the projected operations are to be conducted, the bad roads, the rock and precipitous paths along hillsides, and also in beds or channels of streams, to say nothing of the embattled walls of their forts built of most tenacious clay, difficult to breach, there is indicated an absolute certainty of great need and constant

employment of explosives as gunpowder, gun-cotton, &c.; and so much were these circumstances appreciated in the war of 1839-40, that with the force of Sir J. Keane no less than 10,000lbs. of gunpowder were taken purely for engineer purposes. As, however, gun-cotton is lighter and more powerful than gunpowder, it is suggested that a considerable quantity of it should be adopted into the field park.

6. Finally, as regards the circular, attention is requested to the proposed animal draught. In it it is laid down that the camels are to bear a load of $4\frac{1}{2}$ cwts. in addition to their *kajavaks*. I would respectfully state that the camel in such a country, ill-fed and over such roads, cannot carry such loads, and that two-thirds of the amount is the utmost that ought to be placed on any animal. It further proceeds to place a burthen of lbs. upon a bullock-cart in addition to the weight of the latter, which may be approximately placed at from 800 to 1,000 lbs. This is even a more fatal weight, one which, I feel assured, the bullock cannot sustain; and that the nature of this country, stony as it is in the plains and worse in the beds of the rivers, is fatal to bullock draught. That they failed signally in the former campaign history teaches us; and they have already done so in the commencement of this one, if reports are true. Hence we have a strong argument against their employment as beasts of draught if such can be avoided. The only advantage lies in the fact that they can be made into food for the army, if ever hard pressed for supplies.

7. I would therefore beg, as the force to be formed is drawn from Bombay, to draw attention to the subject, and would advocate a train somewhat similar to the equipment proposed (table forwarded) for a field park being taken after it had been inspected and approved of by the commanding engineer appointed to the force.

8. The field park, which is intended as a distinct and separate thing entirely from a siege train, might be supplemented by a few intrenching tools and implements for the employment of the regiments attached to the division, or for any outside laborers who may be obtained.

The additions proposed would be approximately—

Sand-bags	...	1,000	Hand spikes	...	10
Knives	...	60	Hatchets	...	20
Tools, axes, felling	...	20	Shovels, light	...	400
Tools, axes, pick, light	...	400	Helves of sorts	...	400
Bars, crow	...	10	Spades	...	40
Hooks, bill	...	100	Bamboos, medium	...	200
Scaling ladders—6.					
Bamboos, large, for scaling	...	12	Angers	...	6
Saws, hand	...	10	Hammers, hand	...	4
Saws, cross-cut	...	10	Spikes	...	20
Chisels	...	20	Powder, &c.	...	200lbs.

9. As the transport supply will always be a matter of difficulty, as also restocking of supplies, I am of opinion that less than the above amount should not be taken, as it fairly represents the varied essentials for progress in the present day.

10. It may be added, as has been already mentioned in a former letter, that the late Sir Henry Durand, after his experience in Cabul, lays down the weight and magnitude of a park and train necessary for any army of 10,000 men in Afghanistan as that of at least 220 camel loads.

He further pointed out that each company of sappers had three camels attached for the purpose of carrying their intrenching tools, marching with the company to work. This should undoubtedly be sanctioned. By carrying a portion of the necessary tools, they would ease the men on the march: for immediate work one section of sappers might carry their tools, being relieved next day by second section, and so on.

11. I would further impress the necessity of having a couple of long timber carts, or cart and limber, for the purpose of carrying the long bamboos for escalading, and also a certain quantity of long timber about $22' \times 6" \times 5"$ and $22' \times 5" \times 4"$ to be employed, should necessity require, in making barrel-pier rafts, gyn, &c.

No. 657Q., dated Kirkee, 2nd December 1878.

From—The Officer Commanding Bombay Sappers and Miners,

To—The Assistant Adjutant-General, Poona.

With reference to the scale of extra articles of field kit allowed by No. 789K. of 9th ultimo, from Secretary to Government of India, Military Department, to Adjutant-General in India, I have the honor to request respectfully that the Major-General Commanding may be pleased to urge the issue in addition of a pair of English boots to each Native soldier of No. 2 Company Sappers and Miners, as were done in the Malta expedition. It is not possible to obtain regimental English boots for the sepoys, and those which are ordinarily in wear are not capable of resisting the effects of long and frequent marches and severe sapper's work, which will in all probability have to be undertaken in the present expedition.

No. 468A.T., dated Bombay, 9th December 1878.

From—The Adjutant-General, Bombay Army,

To—The General Officer Commanding Poona Division.

With reference to the communication as per margin,* forwarded under your endorsement No. 3426

* Letter No. 657Q. of 2nd December 1878, from the Officer Commanding Sappers and Miners, urging the issue of a pair of English boots to each man of the sappers and miners proceeding on service.

† Letter No. 789K., dated 9th November 1878, from the Government of India, to the Adjutant-General in India (Government Resolution No. 5512, dated 14th November 1878).

of the 4th instant, I am directed to intimate that the Government of India have distinctly ordered that no deviation from the scale of clothing laid down† will be permitted; and I am to request you will be so good as to point out to the Officer Commanding Sappers and Miners that he should have made arrangements to supply the whole of the men of the corps with good and serviceable boots.

No. 789K., dated Simla, 9th November 1878.

From—COLONEL H. K. BURNE, C.B., Secretary to the Government of India, Military Dept.,
To—The Adjutant-General in India.

I am directed to acknowledge the receipt of your letter No. 4310D, dated the 30th October 1878, and to intimate in reply, for the information of His Excellency the Commander-in-Chief, that the Government of India are pleased to sanction the adoption of the scale therein proposed for the issue of articles of extra field kit to the British and Native troops proceeding on service, *vis.*—

Clothing.
Field operations, Kabul.

For British troops.

- 1 jersey.
- 2 pairs of warm socks.
- 1 pair of mittens.
- 1 extra blanket.
- 1 waterproof sheet (English) for each non-commissioned officer and man, with *poshteens* at 15 per cent. of strength.

For Native troops.

- 1 jersey.
 - 2 pairs of warm socks.
 - 1 pair of mittens.
 - 1 blanket.
 - 1 waterproof sheet (Cawnpore) for each Native officer, non-commissioned officer and man, with *poshteens* at 15 per cent. of strength.
2. From the above scale, I am to remark, no deviation will be permitted.

No. 791K.

Copy of the foregoing forwarded to the Secretary to the Government of Bombay, Military Department, with reference to his telegram dated the 21st ultimo, and for the information of His Excellency the Governor in Council.

Captain W. North, R.E.

The order was received on the 24th September 1878, and this was the first I knew of it. The first detachment marched on the 26th of the same month.

They, and all the rest, who marched at different intervals later, were complete in every respect in equipment, except in water-bottles.

The only steps I had to take were to obtain these.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

I was left in command of the depôt at Roorkee with all the officers under my charge (except light field officers) with orders to push on the telegraph train, wagons, and poles, &c. (wire had gone on), with all despatch. Every effort was made, and in two months a fair train was got ready. Bullocks were, however, very scarce; and I had to buy some and obtained a few (four pairs) from the Rance of Landourn, near Roorkee. The whole of this train was not, however, called into use, as the army stopped short of Cabul.

50. Was there any deficiency discovered in the equipments, &c., on service?

Major-General F. R. Maunsell, C.B., R.E.

The engineer equipment of sappers were generally good. The regulation scale had lately been found to require revision as to various detail; and a revised scale suitable to the service in Afghanistan was laid down last year and taken. Sundry further improvements were made in the field as found serviceable, such as a definite demolition equipment. Improvements have been made in the vehicles, which the existence of the superior workshops in the sapper park enabled us to construct.

A notable deficiency in that all-important part of equipment, namely, the transport, did exist, and was only made good by a special arrangement, under which mules intended for another purpose were made available. This deficiency ought never to again occur: it has for many long years been a great hindrance to requirements in the field. Sappers wanted in a hurry are found toiling up urging on inferior transport.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

There were some deficiencies in the equipments, as the campaign was exceptional, such as crowbars and jumpers; but sets of bricklayers' tools should be added to the equipment. At Malta and Cyprus it was necessary to indent freely for spun yarn, nails, planks, scantling, and paint. A greater supply of bamboos should be taken. The British force at Malta and Cyprus were perfectly astonished at the many uses to which bamboos were put. An extra blanket and waterproof sheets were given in Afghanistan.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers
and Miners.

The officer commanding the two companies has constantly complained of the insufficiency of their equipments. He reports that "the supply of powder, fuzes, &c., is ridiculously inadequate; that jumpers, &c., for blasting were all worn out, and that they had no small field park (see my letter* No. 1129A., paragraph 8) to fall back upon; that had not the siege train been on passage and they had obtained 15 jumpers, 3 siege platforms, &c., they would have been put to very great straits; and finally, that he had called for a committee to inspect the state his tools were reduced to, but that the general officer commanding would not allow the committee to assemble, as he did not consider it necessary. Indents were ordered to be made out on the arsenal at Quetta, but it appears doubtful whether anything was supplied. The two companies started with purely their company equipment, as laid down in table II, sapper equipment. This consists of a set of entrenching tools and one chest of artificers' tools of each sort; little or nothing more. There were no extra materials for blasting, no wagons, no light bridge equipment, or other stores such as was evident would be required in such a campaign. A comparison between the amount taken by the two companies and what is laid down in army circular of 13th December 1877 for one company field service, not to add the proportion of field park, will best expose the deficiencies.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field
Force.

The equipment of the sappers was efficient. A report on this subject, suggesting some minor alterations, has been forwarded.

Captain W. North, R.E.

No; except that lascar pals appear more suited than sepoy pals for the sappers.

I do not allude to the extra warm clothing absolutely necessary for such a campaign as the last, as the men could not be expected to keep up this.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

Transport was the great deficiency. Skilled artisans too were difficult to obtain, as they did not like leaving their homes and going into Afghanistan, which country has a bad name throughout India.

51. Please state the classes of articles of all kinds of equipment, clothing, &c., which you had to obtain for the company or companies of sappers on field service. How did you get them; and what time did it take?

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

Khaki clothing and boots were purchased in the bazaar at Peshawar. The extra blankets and waterproof sheets were supplied by Government, about the middle of February.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers
and Miners.

Statement of stores and clothing taken with each company is attached. The store items shown in list were all in corps store-room, and were sewn up in gunny ready for departure within two days from time of receiving orders to pack. The clothing was drawn *en route*—portions at Sukkur and portions at Dadur. All had been drawn by the end of February.

† *Intrenching and mining tools and implements.*

No.	Description.	No.	Description.
600	Bags, sand, canvas.	200	Lines, ratline, yards.
50	Bamboos, medium.	6	Rammers, earth, iron.
1	Barrow, hand.	4	Tapes, tracing, bundles.
1	" mining.	15	Tools, axes, felling, American.
1	" wheel.	81	" " pick.
6	Blocks { double 3.	"	" " "
	{ single 3.	5	" " " miners.
6	Chokers, fascine.	100	" kukries or bill-hooks.
3	Forks, sap, long.	25	" mamooties.
2	" " short.	5	" push picks.
25	Knives, gahion.	25	" sickles.
6	Ladders, rope, mining.	31	" shovels, common.
6	" " scaling, 80 feet.	5	" " mining.
5	Lamps, tin, miners.	25	" spare helves, axes, felling.
1	Lantern, dark.	25	" helves, axes, pick, spare.
1	Level, field service.	15	" " mamooties "
5	Lines, log, skeins.	25	" " shovels "

Intrenching and mining tools and implements—continued.

No.	Description.	No.	Description.
<i>Forge kit.</i>			
2	Anvils, small.	1	Poker.
2	Bellows, brazier's, with bolsters.	1	Shovel.
1	Beak iron.		
<i>Bricklayer and mason's tools (1 set).</i>			
1	Bevel, wooden blade.	6	Gimlets, nail.
2	Buckets, with strap complete.	6	" spike.
1	Chest, 2' 6" x 12" x 9".	4	Gauges, firmer.
3	Chisels, brick.	4	" socket.
3	" mason's.	1	Hammer, claw.
1	Hammer, brick.	1	" rivetting.
1	" mason's.	1	Knife, drawing.
1	Level.	1	Line, chalk, with reel.
1	Line, chalk, 20 yards, with pins.	1	Mallet.
1	Mallet, mason's.	1	Pincer, common.
2	Moulds, brick, 9" x 4½" x 3".	1	Plane, bead, ¾".
6	Plugs and feathers (set).	1	" jack, double iron.
1	Rule, 2 feet.	1	" plough, with 8 irons.
1	" plumb with bob.	1	" rebate, skew, 1½".
1	Square, ground.	1	" smoothing, double iron.
1	Trowel, brick.	1	" trying.
1	" mason's.	1	Pot, glue, double.
1	" plasterer's.	3	Punches of sizes.
6	Adzes, country (busulah).	1	Rasp, half-round, 12".
1	Adze, Europe.	1	Rule, 2', common.
6	Augers of sizes.	1	Saw, hand, Europe, 26".
6	Awis, brad.	6	" " country, 18".
1	Bevel, steel blade, 12".	1	" tennon, iron back, 18".
1	Brace or stock, with 24 bits.	1	" turning or compass.
1	Brush, glue.	1	Screw-driver, 14".
2	Chests, 2' 6" x 12" x 9".	1	" 6".
2	Chisels, cold, of sizes.	1	Set, saw.
4	" firmer.	2	Shaves, spoke, 4".
4	" mortice.	2	" 8".
4	" socket.	1	Spanner, McMahon's, 15".
1	Compass, common, 6".	1	Square, steel blade, 18".
1	" with sweep, 10".	1	" 9".
2	Files, half-round, 14".	1	Stone, grinding, 10".
18	" saw, of sorts.	1	" oil, in frame.
1	Gauge, mortice.	1	" rag.
2	" single.	1	Vice, hand.
<i>Laboratory and miscellaneous stores.</i>			
2	Bolts, draw, with padlock fastenings.	1	Match, quick ... lbs.
1	Borax ... lb.	5	" slow ... "
2	Boxes, camel, trunk ... pairs.	1	Measure, powder, copper.
4	" mule or bullock ... "	80	Nails and screws, 40 lbs. of
10	Brass ... lbs.	-	each ... lbs.
8	Brushes, paint.	20	Needles, sewing.
5	Candles, wax ... lbs.	5	" sail, 1st size.
20	Canvas, Europe ... yards.	5	" " 2nd "
1	Chalk ... lbs.	10	" packing.
80	Charcoal ... "	2	Oil, mustard ... galls.
2	Funnels, copper.	2	" linseed ... "
20	Fuze, Brickford's patent ... fms.	10	Paint, whitelead ... lbs.
20	" hand grenade.	10	Paulins, camel.
2	Glue ... lbs.	10	" bullock.
1	Grindstone, 18".	20	Portfires.
20	Hand grenades.	2	" sticks.
3	Hides, bullock.	100	Powder, ordnance ... lbs.
2	" buffalo, half.	1	Pump, Norton's tubes.
30	Iron, bar, rod, and country (or	1	Reel, hand, with lines.
	old), 10 lbs. of each ... lbs.	2	Rods, measuring, 10'.
2	Knives, laboratory.	5	" " 6'.
4	Kajawahs, camel (when carts are	5	" " 4'.
	not obtainable) ... pairs.	150	Rope, Europe, 3" ... fms.
4	Kajawahs, mule or bullock ... "	150	" " 1½" ... "
1	Lantern, Muscovy.	6	Ropes, drag { heavy 3" rope.
1	Lead for solder ... lbs.		{ light 2" " ... lbs.
2	Linco doosootie ... pieces.	4	Resin
20	Locks, pad.	1	Seals, copper, small, with weight.
2	Mallets, tent.	2	Scissors, laboratory.
2	" picket.	75	Spikes, jagged.
50	Matches, lucifer ... boxes.	10	Spun yarn ... lbs.

Intrenching and mining tools and implements—concluded.

No.	Description.	No.	Description.
10	Steel ... lbs.	1	Box, compass, mining.
1	Tin, block ... "	1	Chest, 2' 6" × 12" × 9".
5	" sheet ... sheets.	2	Copper needles, 4' long,
5	Thread, cotton, country ... lbs.	1	" 7' "
3	Twine, hemp, Europe ... "	5	Hammers, sledge. "
10	" country ... "	4	" striking.
80	" moonge ... "	4	" hand or short-handled.
1	Zinc for solder ... "	3	Jumpers, 5½' long, 1½' bit.
8	Bars, boring; 2' long 1½' bit.	1	Powder horn.
3	" " 2' " 3" "	1	Priming wire, brass, 16 gauge.
3	" " 3' " 1½' "	1	Scraper, 4' long, 1½' bit.
3	" " 4' " 3" "	1	" 7' " 3" "
2	" " 7' " 3" "	100	Tubes, india-rubber. "
3	" crow 2½' "	12	Wedges.
6	" 4½' "	1	Worm, 7' long, 1½' bit.
1	" tamping 4' 1½' bit.	1	Saw, pit.
1	" " 7' 3" "	1	Saw, cross-cut.
2	Bellows, country.		

Surveying instruments, books, and stationery.

2	Bannerols, with staves.	1	Logarithms, table of.
1	Case, mathematical.	28	Paper, drawing, sheets.
1	" sketching.	2	Pencils, dozen.
1	Chain, measuring, with arrows.	1	Penknife, office.
1	Clinometer (with case complete).	1	Plane-table.
50	Cloth, tracing, feet.	2	Plumb-bobs.
1	Color, box.	4	Protractors, card-board, circular.
1	Compass, prismatic.	1	Boring rods (set of three).
2	India-rubber pieces.	4	Scales, card-board, engine divided.
6	Ink bottles, surveying, with straps complete.	1	Sextant, pocket.
1	Level, spirit, small.	8	Tapes, measuring, 100".
		1	Telescope, field.

Smiths' tools, one set, as follows.

1	Brace, iron, with 3 bits.	1	Hammer, sledge, 10 lbs.
1	Calliper, 10".	1	" 7' "
1	Chests, 2' 6" × 12" × 9".	1	Holdall, leather.
2	Chisel, cold.	1	Pincers.
2	Chisels hot.	2	Punches, cold.
2	" hand.	3	" hot.
1	Compass with sweep 10".	1	Rule, common.
2	Cutters, anvil.	1	Saw, bow, 10".
1	Drill, bow, with 12 bits complete.	1	Screw-driver, 15".
10	Files, flat, 14".	1	" 6".
6	" " 10".	1	Screw-plate, hand, with 10 taps.
4	" " 8".	1	" medium, with taps.
4	" half-round 14".	1	" small.
4	" " 10".	1	Spanner, McMahon's, 15".
4	" round 12".	1	Square, iron, figured.
2	" " 8".	1	Stocks and dies, Whitworth.
3	" rubber 16".	1	Stone, oil.
2	" square 10".	1	Tong, bolt.
2	" " 8".	1	" close.
1	File, 3 square, 12".	1	" fore-bit.
1	" " 7".	1	" hammer.
2	Files, warding, 5".	1	" hollow-bit.
2	" " 3½".	1	" pleyer.
1	Hammer, hand.	1	Vice, bench.
1	" rivetting.	1	" hand.
1	" setting.	1	" standing.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

Poshteens, overcoats, flannels and boots had to be obtained. The clothing department at Calcutta promptly responded to the calls made upon them, as did various well-to-do contractors. I consider that a great-coat (English), a pair of English boots and an English blanket, with two pairs of warm English socks, in addition to the ordinary clothing provided by Government to each soldier, are indispensable for service in a country like Afghanistan. Warm mittens too are useful, and *puttees* should be worn by all; the lighter the kit the better. I think all the above are indispensable and could be carried by each man without overburdening him. A percentage of *poshteens* only and some warm clothing is also necessary for all kinds of Indian transport animals. Thousands of these died from cold and wet. The clothing issued to followers was neither warm nor well made.

52. Apart from the equipment of the companies of sappers, how were the general engineer stores for the army in the field procured; and was there any delay in getting them, or any deficiency either in the quality or quantity of the articles?

If you consider improvement can be effected in this respect, please give any practical suggestions for the same.

Major-General F. R. Maunsell,
C.B., R.E.

From the arsenal some were made up, owing to the arsenal being unable to supply them. Great delay occurred owing to there being an insufficient supply in arsenals. The quality of the stores obtained was generally good. All deficiencies were finally made good. I note here the want of more complete apparatus for demolition in the ordnance department, that is, of proper detonating fuzes; for gun-cotton has an enormous advantage of power, and I used a large quantity; but I was obliged to always use electricity, which is often inconvenient and not obtainable.

Major-General A. Fraser, R.E.

With respect to the arrangements for the engineer organization in the late war, I should say from experience of the correspondence that passed at head-quarters that a mistake was made in appointing so many commanding engineers. One commanding engineer under the Commander-in-Chief, who would be responsible for all the arrangements, and one or more field engineers with each column, with assistant field engineers under them, would have been ample with such small columns. As it was, the public works department had to arrange for a reserve dépôt. Neither the royal engineer officers nor the arsenal people knew where the stores were to be got. Where there are large separate army-corps in the field, each should have its commanding engineer working up to a chief engineer under the officer commanding-in-chief; but no separate armies can work together in the field satisfactorily unless under one head, who will be responsible for all the arrangements.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's
Own" Sappers and Miners,
Madras.

The general engineer stores for the army in the field were procured, I believe, from the arsenal at Peshawar. In the first division the stores were ample; but in the second division stores were often deficient, but the stores generally were good. There should always be an officer of experience in charge of the park, with a staff of distributors and artificers. The detail of stores should be submitted to the commanding engineer before the commencement of the campaign. He would omit and add such articles as were not required or were specially required for the contemplated operations; and he should arrange the order in which stores should be forwarded to the front. The commanding engineer has considerable powers for sanctioning expenditure in the field; but it would seem expedient to give him power before the campaign to procure such things as will be necessary.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sap-
pers and Miners.

As far as I can learn, there was a siege train got together at Sukkur and forwarded on after the advance of the troops. This was collected very slowly, and would not have been up to the front in time had any siege of Kandahar been necessitated.

As regards the Malta expedition, orders were issued to the sappers and miners to the effect that two companies should be got ready at once, and that with them was to be sent a small park which, as the destination of the force was unknown, was to be as complete as possible. (Such an order was neglected in the Afghan force.)

In accordance with these instructions, an indent was made on the ordnance department, and two officers were sent to Bombay to draw the stores, pack them, and place them on board the transport vessel. The result was that few engineering stores were found in the arsenal, and such as were in stock were of ancient pattern. Even the *kayawks* had to be obtained by telegraph from Allahabad. It must, however, be understood that no pains or exertions were spared by the ordnance in hunting up anything obtainable (which was *not in the arsenal*) locally and supplying the force with it. Still to improvise a field park on a sudden is more than is to be expected; and unless a proper siege and park is kept up in the arsenal, and inspected half-yearly by an engineer officer, the sapper and miner equipment can never be thoroughly efficient.

With regard to the improvements to be effected, it may be asserted that the sappers of a force can never be efficiently equipped so long as the present state of things obtains, *viz.*—

The ordnance department have as their guide and authority for procuring and supplying sapper stores—

(a) Table II of sapper and miner siege train and company equipment, Kirkee, 1870.

(b) Vocabulary of ordnance stores for British India, 1873.

Now since the issue in 1870 of table II, which is headed engineering equipment for a company of sappers and miners, general service, so much has been learnt and so much done to increase the efficiency in point of *matériel* of the engineering branch of armies generally, that the said table II is far from being up to the mark. The whole compilation is necessarily behind the times. What class siege train, if any, is sanctioned for the Poona arsenal or the grand arsenal at Bombay I do not know; but should there be any, its details would be far from coinciding with that of "stores to be maintained for siege requirements, royal engineers," published in Army Circular, 1st January 1870-71.

Agnin, the British India Ordnance Vocabulary, 1873, is as regards engineering requirements, equally behind the times. Without going into details, it will suffice to say that the home service or British vocabulary of stores of 1876 has a section (VII) thus headed: "Stores of a nature special to engineer equipment generally and torpedo stores, diving apparatus, tools for earth-boring, mining, platelaying, telegraphy, signalling, sub-marine mining (instruments excepted)," which latter come under section II, 'Instruments,' whereas the Vocabulary of Ordnance Stores for India, 1873, has no such section, and, with the exception of some tools for earth-boring and mining, no such stores. Neither does its section II, similarly headed 'Instruments,' contain the instruments required with the above special stores.

There was, then, one point calling then, and even now, for very serious attention, *viz.*, that even supposing the ordnance department had been, or were now, able to supply all the stores required for a complete park, yet not only was the expeditionary force sent without anything in the shape of—

- (a) pontoon train or bridge equipment,
- (b) telegraph train,

but the Bombay corps is up to the present day without such.

As regards the Bombay corps, it has been known to every General Commanding Poona Division, and to every Commander-in-Chief of the Bombay Army since 1870, that it has had not only no pontoon train, but nothing for instructional bridging practice, save some condemned pontoons (condemned in 1863) and some porter barrels.

A telegraph train has never existed in this presidency. I may mention that I obtained as commanding officer of the corps after a camp of exercise on loan from the Government Telegraph Department on my own responsibility some more instruments and telegraph cable and wire. Two sergeants having joined from England who happened to be practised telegraphists, some makeshift batteries were constructed for the purpose of instructing some of the other men.

These few men and the makeshift and borrowed *matériel* represented the whole attempt at field telegraph stores sent with the expedition.

In the committee's prefatory report to the Roorkee Equipment compilation of 1870, it is stated in paragraph 5 that "the question of field telegraphy and pontoon trains remain to complete the subject of engineer equipment in India."

It was reported to the Adjutant-General of the army at the end of 1876 that we had nothing in the way of equipment but that laid down for each company in table II, owing to the question of the other not having yet emerged from the region of experiment and committeeism. After a lapse of three years such is still the state of the case.

The great point to be aimed at even now is to secure the recognition of the fact that, as elsewhere so also in India, sapper corps require sapper equipment. This once accepted, and the tables sanctioned, their modification thereafter is a comparatively easy task.

These Roorkee tables of 1870 contained provision merely for first, second, and third class siege trains and company equipment, under three conditions, "general, hill, and light" service. No unit of equipment was laid down for a field park, which was, above all, the thing wanted for any expeditionary force for the supply of the sappers.

The siege train equipment of 1870 as abovementioned is much behind the time. It is hoped therefore that a revised equipment for India will be taken in hand and sanctioned, giving the complement for a—

field company,
field park,
pontoon troop,

depôt company,

telegraph troop,
railway company,
torpedo company,

so that sappers sent with any force in future may not have to depend upon makeshifts. Moreover, as a man does not learn the use of his own arms and legs and his drill in a day, the sooner these special stores are supplied, the sooner will the State reap the full value of the special pay allowed for its training, which cannot now, for want of the requisite materials, be carried out efficiently. I would draw, in conclusion, special attention to the letter from the Inspector-General of Ordnance, Poona, to the Commissary of Ordnance, Poona, No. 222, dated 10th January 1877, in which he points out that the only materials and plant which he will supply are the few entrenching tools of a company. A glance then at the Army Circular, War Office, 1st April 1870, page 73, which actually provides more for the rough training of the militia engineers than has been granted to the corps. It is self-evident that if a company is to be in thorough readiness for service, its equipment ought to be in first-rate order. This it cannot have if it is to be brought into use every day in training; for picks, shovels, &c., soon show signs of wear and tear.

If the arsenals were kept up to their proper supply, and a thoroughly effective siege train for use in India and elsewhere drawn out and kept in readiness, I should think that such a proceeding would meet the general requirements; but it must be thoroughly understood that for the sappers at headquarters there ought to be in addition to the above two small separate parks, each for two companies kept always in readiness. The combination of the two would be probably in excess of that sanctioned in Army Circular of 13th December 1877; but it must be fully considered that the English service would be more or less in places of a more civilized nature where plant of some kind could be obtained. The chances of Indian service would point to places where plant and tools would not be obtainable; hence some small extra provision should be made.

As so many special stores are required for the improved engineer stores, I think one of the senior officers in the ordnance should be an engineer officer.

No. 222, dated Poona, 10th January 1877.

From—LIEUT.-COL. C. CLARKE, for Inspector-General of Ordnance and Magazines, Poona,
To—The Commissary of Ordnance, Poona.

In returning the indent, dated 1st November 1876, from the Sappers and Miners, the Commissary of Ordnance, Poona, is requested to inform the officer commanding that corps, with reference to his

letter No. 1116C. of 16th ultimo, that Government Resolution, Military Department, No. 3754, dated 16th September 1875, sanctions table II, engineer equipment for a company of sappers and miners, general service, only being accepted as a standard, and this department cannot, therefore, sanction anything beyond what is laid down in that table.

2. The indent should be therefore corrected, and include only the articles sanctioned as above, which will be supplied with the least possible delay.

3. It should be stated whether the demand on the indent is for the whole five companies of the corps, or those at head-quarters only. In the latter case no additional demand will be passed, if preferred by the officer commanding the company at Aden.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineer,
Southern Afghanistan Field
Force.

A very full report on this subject, showing in detail the stores supplied, the method of supplying them, the deficiencies noted, and the delay caused by inefficient arrangements for their transport from the arsenals, &c., and also such suggestions as I have to offer for the improvement in quality, alteration in description, and method of supply which should be adopted when a royal engineer field or siege park is to be put in the field, has been sent to the Quarter-Master-General in India.

Lieutenant-Colonel D. Limond,
B.E.

Partly from the arsenals, and partly from the public works stores. There was considerable delay in getting the stores for the 2nd Division, Peshawar Valley Field Force, which arose from the demands previously made by the 1st Division and the Kunram Field Force. The tools received were generally of good quality, *i.e.*, those from the arsenals; those locally manufactured decidedly indifferent.

Captain W. T. Stuart, Inter-
preter and Quartermaster, Bengal
Sappers and Miners.

The commandant had for years past been striving to get the park and trains in good and efficient order, and was well provided with nearly everything needful.

53. What was the work (in detail) performed by the <sup>Bengal
Madras
Bombay</sup> sappers in the late campaign, and the numbers employed?

In what way were the sappers under the various commanding engineers?

Major-General F. R. Maunsell,
C.B., R.E.

The work performed by the sappers was very heavy; they were constantly employed. The works were so heavy, that large numbers of country laborers had to be used also. Some sappers were attached to divisional parks.

The sappers were under the commanding engineer, precisely as other branches were under their brigadiers. Orders were issued to the commanding royal engineer, who was responsible for all being carried out. They were promulgated in royal engineer brigade orders or otherwise, as usual, through the royal engineer brigade-major. The commandant of sappers being also present, system was facilitated, he being usually made responsible for details. The commanding royal engineer exercised no interference with regimental duties and detail.

Similar system existed in the armies with which I have served, as siege of Mooltan, Delhi, Lucknow; and I cannot conceive any other system working smoothly and efficiently.

I have reason to believe that this system did not fully exist, at any rate at first, in other divisions; and the consequence was friction and misunderstanding. But I may be mistaken—certainly I had a great advantage in having been long in military command both of a corps and of a station, practically a brigade command. I consider this more convenient than the system in vogue in the home army, under which the commanding royal engineer takes up details of regimental business, which, in my opinion, should devolve on the officers who know the men and have commanded them; they should not be superseded.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's
Own" Sappers and Miners,
Madras.

The B Company was employed in making the road from Ali Musjid to Jumrood, building *sungahs* at Ali Musjid and Lundi Kotal, destroying towers in Bazar Valley, well-sinking at Lundi Kotal, road-making and building post at Turkoman.

The E Company was employed in road-making from Jumrood to Ali Musjid, destroying towers in Bazar Valley, road-making Ali Musjid to Lundi Kotal, making posts and entrenchments at Basawal.

The K Company was employed in road-making at Lundi Kotal and from Futtehabad to Gundamuck, building fort at Jellalabad, sinking well at Lundi Kotal, building 44th Regiment memorial beyond Gundamuck, destroying towers at Futtehabad.

Each company furnished working-parties of from 80 to 100 men. The sappers were under the commanding engineers for work.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sap-
pers and Miners.

Two companies of sappers, the 2nd and 5th Companies, were employed on roadwork and constructing bridges, &c., between Jacobabad and Dadur till March. They then commenced a road through the Chota Bolan of about a mile in length of difficult work, in which a good deal of blasting was done and a retaining wall of about 200 yards built. The length of road finished was about seven miles. Even at this period reports were forwarded as to the paucity of powder, fuzes, and jumpers with the company equipment.

In April the two companies attacked the deep gorge of the Bolan Pass proper, and by dint of hard work made the road from the entrance of the pass to the Thust-i-bedowlial Kotal, nearly seven miles, feasible for the passage of the heavy siege train. Here again, had they not been supplemented by some of the stores of siege train, they could not have executed the works demanded.

In May sappers were chiefly employed in blasting and improving General Phayre's alternative route to Mach. A small canal was also constructed of about two miles in length, and the general watering arrangements of the place carried out.

In June and July the work on General Phayre's road was continued; and in August the masonry channel was constructed to lead water from the reservoir to the watering troughs in the Bolan.

The remainder of the men were employed in continuing General Phayre's alternative route.

A detachment taken from the command of the sapper officers and placed under an officer in the public works department was employed on a road between Dogdan and Mach.

On the 27th August the sappers were marched to Dhusta redoubt to commence a road over the Bolan Kotal, which should be about the end of September, by which time the sappers, besides the canal and alternative route of General Phayre, will have completed an excellent road from Kista to Darwaza. There are, however, now daily 90 sick out of the force. This is partly attributable to the fact that a great number of the men in the company had been very ill in Cyprus, but I believe also to the fact of the heavy continuous strain of work thrown on the men, who were working on rations of not sufficiently nourishing power to repair the excessive waste of tissue; and I trust this matter may receive consideration.

The sappers were under the command of an officer royal engineers, Lieutenant Whiteford. He received orders from the general direct. The reason of this was that with the reserve division no commanding engineer was appointed, and hence no one to superintend the engineering work—a very grave error. The commanding royal engineer should be *en rapport* with the general, and issue his orders to and through the officer commanding the sappers and miners when he wishes work done through their agency. This is a very simple matter, and ought to cause no more friction or trouble than a brigadier working with the regiments under his command.

The arrangements as regards royal engineer and sappers and miners are in India most unsatisfactory. The only way to remedy this is to adopt as far as possible the home system, and appoint to every large body of troops a royal engineer officer of high standing as commanding royal engineer, who is responsible to the general commanding for the discipline of, and work done by, the royal engineers and sappers and miners under his command. Under the present system, a royal engineer is appointed with two or three field engineers and a miserably small collection of assistant field engineers.

There is no bond of union between them and the sappers, as the latter are quite separate; and the consequence is that the quartermaster general of the force practically becomes the commanding royal engineer and adviser of the general in engineering matters. It need hardly be said that the quartermaster general has ample work of his own to do; and thus imposing upon him other duties of which he has generally but a superficial knowledge is most prejudicial to the interests of the service.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineer,
Southern Afghanistan Field
Force.

(b) In answering this question, I think I cannot do better than enclose a letter addressed to the Assistant Adjutant-General, Southern Afghanistan Field Force, upon this subject. I am enabled by the kindness of Lieutenant-General Sir Donald Stewart to attach a copy of his forwarding minute. I may add that I think it would be extremely foolish of any commanding royal engineer to interfere with the

interior economy of the sapper companies under his command; and I do not imagine that any temptation to do so would ever exist. His relation to them should be somewhat that of a brigadier to the regiments of his brigade—a power of inspection, and the right of course of ordering such working-parties as may be necessary for the execution of engineering works. I also think that all applications for regimental courts-martial should be made to him, as they are at home, although all other commanding officer's powers of punishment, &c., may be held by the officer commanding the detachment. This is particularly desirable in my opinion, as the British non-commissioned officers attached to the different companies sappers and miners are royal engineer soldiers belonging to the 41st Company, Royal Engineers.

Confidential.
Sappers and Miners.

Dated Kandahar, 27th March 1879.

From—LIEUT.-COL. W. HICHENS, Comdg. Royal Engr., Southern Afghanistan Field Force,
To—The Assistant Adjutant-General, Southern Afghanistan Field Force.

I have the honor to request that you will bring to the notice of the lieutenant-general commanding the very unsatisfactory state of the relations at present existing between the commanding royal engineer and the sapper companies.

2. I had noticed for some time that whenever I gave any orders with regard to the sappers to * * (the senior officer with the sappers and miners attached to this division), although there was no overt disobedience, still his manner was always as though he obeyed under protest, and my orders had frequently to be repeated.

3. Now * * * is an excellent officer, both as an engineer and a commandant of a company; and I was willing to believe that I might have misconstrued his manner, but at last I was obliged to speak to him on the subject; and I said—

"It seems to me as if you thought I had no right to give any orders at all as regards the sappers."—which, to my astonishment, he acknowledged to be his belief, founded upon his teaching at the head-quarters sappers and miners at Roorkee, and upon his interpretation of the Bengal Army Regulations.

4. I requested him to put upon paper his view with regard to the constitution and position of a company of sappers and miners, especially with reference to its relation in the field to the royal engineers.

5. His statement I annex with my own marginal notes, in which I show my own opinion as to what those relations should be, and which are almost identical with those which now exist in the British army between the companies royal engineers, formerly called sappers and miners, and the officers of the corps. These views do not appear to me to be in any way contrary to the regulations of the Bengal army; but in those regulations I am unable to find any paragraph which defines, or even hints at, the duties of royal engineers in the field; so having been appointed Commanding Royal Engineer to the Field Force, Southern Afghanistan, I conclude that my position and functions are those laid down in the Queen's Regulations, paragraph 49, section 5, from which it appears that I am "responsible for the military discipline of the officers and men under my command, * * * * * for the efficient direction of engineering operations at sieges, * * * * * and for mining, bridging, making surveys," &c., &c.

6. Now, I am at a loss to understand how I can be held responsible for the efficient direction of these engineering operations if my authority is so curtailed, that I am unable to inspect or control the instruments by which they are to be carried on—the companies of the sappers and miners.

7. I am sanguine that I shall obtain the support of the lieutenant-general for the views I have expressed; and indeed since he was so good as to issue a field force order putting the sappers under my direct command, all my orders have been cheerfully and punctually obeyed. But I think it is to be deplored that the relations of the Bengal sappers and miners to the commanding royal engineer in the field should be so ill-defined in the Bengal Army Regulations, that a young royal engineer officer in command of sappers should be able to believe that he is only acting up to the spirit of those regulations when resisting the authority of the commanding royal engineers.

8. I wish to record my opinion that * * * was actuated by no feeling of insubordination in his conduct towards me, but by an honest, though I believe mistaken, view of his duty to the corps of sappers and miners, and a spirit of loyalty to its commandant.

Memorandum on the relations between the Commanding Royal Engineer and the Companies Sappers and Miners.

Remarks by Lieutenant-Colonel W. Hitchens, Commanding Royal Engineer. Memorandum by * * * Commanding detachment sappers and miners.

The corps of Bengal sappers and miners is constituted as all other Native corps or regiments, the only difference being that the officers are now selected from the royal engineers instead of from the Bengal staff corps; the sepoys are recruited from the same sources as for other Native regiments, and are not required to possess any particular trade qualifications.

2. This is also the case with the command of royal engineer companies, formerly called sappers and miners. At home in large stations where there are several companies a special officer is appointed to the command by the Field Marshal Commanding-in-Chief; but he and all his companies are under the commanding royal engineer of the division.

If the officer commanding companies is absent, the command devolves upon the senior officer appointed to the companies, although there may be officers, royal engineers, senior to him at the station. But under all circumstances the senior officer, royal engineer, in the division is commanding royal engineer; and as such the officer commanding companies and the companies are under his orders.

3. In peace time, when sent to any out-station, as no officer, royal engineers, is to be found in India holding regimental military employ, the command of necessity is in the hands of the senior officer with the company or companies.

On service the royal engineer officers and the sappers are appointed to a division under the command of the commanding royal engineers of that division.

4. No doubt, and also to the commanding royal engineers, and through him to the general officer in command.

2. Only those royal engineer officers who have been appointed by G. G. O. hold command or appointment in the corps. The fact of an officer being a royal engineer does not necessarily entitle him to any command or appointment in the corps. In this the constitution is similar to the rest of the Native army. All Bengal staff corps officers may be appointed to command any regiment by G. G. O.; but the fact of an officer belonging to the Bengal staff corps does not entitle him to an appointment or command in any particular regiment.

3. On service the companies sappers and miners are detached from the head-quarters of the regiment, and are attached to a division, Brigade or battalion under the command of the staff or doing-duty officer. At present the 4th company is under the command of a doing-duty officer, the 10th under the superintendent park and train, and the 1st under the quartermaster (Bengal staff corps).

4. These officers are at all times responsible to the commandant of the corps for the state of the companies under their charge, and certain monthly returns are consequently forwarded to him, showing the distribution and employment of companies, and the punishments awarded. These officers when on detachment or service are immediately under the orders of the officer of the brigade or battalion to which they are attached, in a manner exactly similar to that of all other Native corps.

5. There is no *raison d'être* for companies of sappers and miners except as engineer troops; and as such they are clearly under the orders of the commanding royal engineer.

The view as here expressed would make it necessary for the commanding royal engineer to apply to the general in command, who would issue an order, through the assistant adjutant-general, for the officer commanding the detachment sappers and miners to move a couple of men whom the commanding royal engineer wanted to make a loophole.

5. Also in regard to working parties just as with Native regiments. Demands for working parties are made to the officer commanding the detachment, through the officer commanding the division, brigade or battalion to which the sapper companies are attached.

* * *

W. HICHENS, *Lieut.-Col.,*
Commanding Royal Engineer.

Kandahar, 24th September 1879.

Endorsed by LIEUT.-GENERAL D. M. STEWART, Commanding Field Force, Southern Afghanistan.

Forwarded to the Adjutant-General in India for the orders of His Excellency the Commander-in-Chief.

For all purposes of business, discipline, and command, the sapper companies attached to this force have been placed under the commanding engineer precisely as batteries of artillery are for similar purposes placed under the command of the senior officer of that arm serving with the force.

The commanding engineer is provided with a staff officer for the express purpose of enabling him to exercise the duties of his office in accordance with the general regulations of the army; and it is clearly for the interest of the public service that sapper companies should be always under the control of the commanding engineer on field service.

Lieutenant-Colonel D. Diamond,
R.E.

The B and E companies of Madras sappers served throughout with the 2nd Division, Peshawar Valley Field Force; they were employed for about a month on the road near Ali Musjid, principally doing blasting. The K company was also employed on the road from Lundi Kotal to Lundi Khana. The masons of the B company put in the foundations of Fort Blaff at Ali Musjid, and subsequently after transfer to Basawal assisted in the entrenchment of the camp at that place, and in the erection of shelter over the men's tents. The E company constructed the post at Torkammar, between Lundi Khana and Haft Chah; they also blew up towers at Bagar. The 2nd and 3rd companies of Bengal sappers aided in the erection of iron-framed barracks at Lundi Kotal, in road-making, also in clearing the site for Fort Tytler at Landi Khana.

The officer commanding the Madras sappers was a field engineer, and at my request took general charge of works from Gridice to Jellalabad. The rest of the officers attached to the Madras sappers were assistant field engineers, and in that capacity served under my orders. The companies were in communication with the officer commanding Madras sappers and miners employed where their services appeared most required.

Captain W. North, R.E.

The head-quarters and 1st, 2nd, 3rd, 6th and 8th companies with Khyber column.

Work with advanced guard at action of Ali Musjid and advanced through the Khyber. Employed throughout in rendering the very bad road passable for artillery and dragging the guns, when the horses and gunners could not do it over the bad places.

At Dalka, employed on road-making, strengthening the fort and defences, improving communications across river.

At Jellalabad, roads, bridge across river, general defences.

At Girdi Kus, employed for two months at far the hardest piece of road-making done anywhere in the campaign.

At Gundamak, road-making, and on the fort.

Hard telegraph work was also continually being done during the campaign.

Companies or detachments invariably accompanied all the many expeditious which took place against hostile tribes, and destroyed a large number of towers, &c., in the presence of the enemy.

The sappers with the other columns were similarly employed; but as they are still in the field, detailed reports have not been yet received.

The number of combatants employed in Afghanistan was over 1,300.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

Generally the sappers work constantly and well. Details must be obtained from royal engineer brigade records.

54. Do you consider that the present uniform and equipment of the Native sapper meet all requirements?

Major-General F. R. Maunsell, C.B., R.E.

Yes; the speciality of the arm, namely, a shortened sword knife in a leather scabbard, is, I consider, a very great improvement. I had a battle with prejudice (I mean amongst regimental officers) in the matter and a stout opposition; but every officer whose opinion seems to me worth anything has now seen the advantage of it.

It might be improved further by having the weapon made on purpose, instead of being laboriously ground or cut down in arsenals as they are now.

Major-General A. Fraser, R.E.

I am not certain as to present arrangements for clothing. But the sappers should have a proper working dress of khaki, which should be worn in the field; in cantonments they should have their regular uniform, like the rest of the army. The sapper equipment should be only sufficient for their ordinary drill and field practice; all other stores, tools, and materials necessary to supplement the engineer park, &c., should be in time of peace kept in the arsenals and indented for as required.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

In most respects they are very good. The black cotton trousers lately introduced are not, however, good.

It is necessary that by some means a sapper should be enabled to carry his arms, accoutrements, working tools, great-coat, blanket, and three days' provisions on an emergency—for instance, on landing at Gallipoli or the coast of China.

Boots are always a difficulty. Government should supply boots of the same quality as the British ammunition boot, but made not of the English shape. They should be broad at the toes, to fit the undeformed foot of the Indian soldier.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

The present sapper dress and equipment do not meet the requirements of field service.

First, as regards dress,—the forage cap, though neat and smart-looking in camp and in undress, is unsuitable in marching or during exercise without the strap, the use of which was ordered to be discontinued, and the resumption of which might be objected to on account of caste-prejudice. Over the forage cap the head-covering, a small narrow band of cloth, is too small to afford sufficient protection from the sun in the day or sufficient warmth in the cold. A very slight alteration in its make would still preserve it as a small smart undress, and permit the use of a turban over it in marching order or on service. The coat is either too tight or not tight enough in the body. The sleeves should be left slit open under the armpits for ease of work and for ventilation. The English loose serge coat would be more suitable than the present tunic given them. Trousers are furnished. They should be exchanged for knickerbockers. There is a double fault in the trousers. First, as a sapper has frequently to work for a time in water, in marshes, near rivers, &c., it is a matter of no small importance to him to be able quickly to divest himself of all clothing below the knee. This is easily attainable by a knickerbocker, not so by trousers. Secondly, its looseness affords space for the peculiar underclothing worn by the Natives. I am well aware, I may here mention, that the loose knickerbockers worn by the French chasseurs in the Italian campaign of 1859-60 were found to be failures, causing severe excoriation, &c., in fork of the wearer from their looseness and want of support to those parts in hot dusty days when the army had to march through the plains of Italy. The evil was considered of so serious a nature, and the percentage of men incapacitated so great, that it was contemplated to give them up altogether and return either to the tight English or Austrian trousers, or exchange them for the Zouave, which is only an enlarged sack. The wearing of a *langootie* or *dhotie* obviates this cause of probable trouble in the Native costume; and hence they may be suitably instituted in the Native army.

Below the knickerbocker, if possible, I should prefer to see the up-country *puttee* used, folded well over the calf, and also if possible over the feet; the folding commencing at the toe and working up to the knee. But if this folding over the toe is too difficult or too expensive, each Native ought to be taught the use of a small square piece of cloth to be used folded over the feet (similar in manner to that employed by so many of the continental people,—the Prussian, Russian, and other peasantry) as the substitute for stockings, which latter are in my opinion too expensive an article, and one too easily and speedily worn out to become practically available to the sepoy's length of purse. A damaged or worn-out stocking is worse than nothing. The piece of cloth can have its position changed from day to day, so that if showing signs of wear on one spot, a fresh portion of surface may be substituted.

A short gaiter, like that worn by a Highland regiment, is necessary to keep the sand, grit, and small stones out of the boot of the sapper. This gaiter is all the more necessary, as the sapper has so much work on riverbeds and channels.

The boot is a very important problem, which to a certain extent has been solved by the Native himself; for, in spite of the bad shape and ill-fit of European boots, the Native sapper invariably buys the European soldier's boots whenever his purse can afford it. I would, however, represent that the foot of a Native is of quite a different shape. It is narrow in the heel, long and narrow in the instep, and suddenly spreads out like a palm leaf at the toes. His ankle is moreover very much sligher; but his foot generally is larger than that of the European, and the shape is so utterly different, that specially formed boots should be made on suitable lasts. These boots should form an item in his clothing, for which allowance, as is done for coat, &c., should be formally made and sanctioned; as on this his marching and lasting power depends.

As a sapper has on service not only to get over his daily march like other line regiments, but has often to work extra hours in clearing the roads, &c., it becomes an item of the greatest advantage to prevent him becoming unnecessarily taxed and his strength worn out. To quote an apposite axiom, 7 lbs. extra weight on the best horse in racing terms means "a distance." Hence, as a general rule, his intrenching tools and implements should be carried for him, and he should be left as free from extra burdens as is possible. At the same time it becomes often absolutely necessary for expeditious work that he should be able to carry in need his intrenching tools himself in order to set to work against time, for such purpose for instance as destroying bridges, throwing up banks, &c.

The argument of the above resolves itself into the result that his equipment should be of such a nature as to admit either the carriage of his general clothes, &c., or of his intrenching tools according to the nature of the work.

The new valise equipment just issued is not suitable for such a purpose; and it is not possible, as far as I can see, to place the intrenching tool on the valise equipment. This latter has far too many buckles and straps to suit the Native soldier, and is far too complicated with it. The sapper may carry his *personal*, but cannot carry his tool with him.

The only suitable equipment for a sapper is the "Oliver," which permits of the carriage of either the sapper's personal kit or of his intrenching tool as is demanded. Moreover, the strain is taken off his chest and brought on to the neck, by which means he can breathe freely and move easily.

As, however, the Native is not physically the equal of a European, the whole set of intrenching tools should be made shorter and lighter. A very little difference in weight tells in a long continuous march, much more so than the inexperienced imagine.

Finally, the sapper to keep himself in decent order is forced to buy for himself a working suit of clothes. This is undoubtedly a hardship, which tells very heavily on those (for instance the torpedo and pontoon companies) who have to work on in the neighbourhood of water, especially the sea. This working dress should be supplied to the sapper at least biennially, and some small item of clothing, if considered necessary on the score of economy, may be withdrawn. I believe some sort of custom as is proposed above is the custom in Madras.

To recapitulate. The sapper's *personal* and equipment is not what it should be; but of all requirements the boot of a suitable shape and of English make and the Oliver equipment are the two grand essentials; and his service cooking-pots should be specially designed to meet the entailment of baggage. At the same time I cannot help feeling that the present regulations cut down the amount of baggage to too low a scale. It was certainly curiously high when the late Sir II. Havelock, as aide-de-camp, had 19 servants and 9 camels as his transport; but we err too greatly on the other side; for if I may be allowed to express an opinion, one-third more baggage and half the number of doolie-bearers sent would have been more practical and more healthy in its results.

The cooking-pots might be made on a very small scale to combine the improvements instituted by Captain Warren in his patent.

Finally, to all sappers on a campaign, as they have to do extra work, and no engine can work without fuel, should be granted meat to those who eat it, or proportionate milk or ghee—in fact, their rations should be assimilated to that of the European ration. My experience is that sappers fed according to Native and not European rations break down after a strain of five or six months; in fact, as I regret to hear, the two companies of the Bombay sappers and miners who have been on long protracted work in the Bolan suffered from this cause.

A tot of rum, tea or coffee should also form a portion of their daily ration.

Captain W. North, R.E.

Yes; but I presume that the new accoutrements will now be granted, and they will be better than the present ones.

Captain W. H. Pierson, R.E.

The Native sapper is still armed with a short rifle, probably a survival of the theory that he should sling his musket while he digs. His duties lie chiefly with the advanced and rear guards, where on occasions every fighting man is of great value; and he should consequently be armed with at least as effective a rifle as any other branch of the service, and "be able at all times, when not employed executing the work for which he has special training, to act as an infantry soldier." These remarks apply equally to pioneer regiments. The disadvantage of carrying a heavier rifle than at present cannot compare with the increase in efficiency. The English sapper is now armed with the same rifle as the line.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

I do not think that the pipe-clayed accoutrements are suitable, and he should be fitted up in the best possible manner. His arms are light, handy, and useful. The royal artillery breech-loading carbine with modified sword bayonet is carried by the Native sappers. The cavalry swords issued to the British non-commissioned officers are too heavy; a lighter sword, royal artillery or royal engineer staff sergeant's sword, would be better and quite as effective. The men should be taught the sword exercise.

55. What are the daily duties of the officers who command the 41st, 42nd, and 43rd companies, Royal Engineers?

In Bengal he is apparently an attachad officer of Royal Engineers, and is styled "commandant," in Madras "2nd-in-command" (Adjutant), and in Bombay "Captain" (Adjutant).

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

He is the adjutant of the "Queen's Own" Sappers and Miners, and performs all the duties of the captain of a company, except the drill. The men drill with the companies of sappers to which they are attached.

The officer in command of the 43rd company is by the Bombay Army Regulations an officer of royal engineer attached to the corps of sappers and miners. For some time the adjutant (who must be a royal engineer officer) commanded the 43rd company; but as this was found to be a most unsatisfactory arrangement, another royal engineer is now appointed to the command.

This officer has the usual duties of an officer commanding a company, royal engineers, to perform. He is responsible for the pay, clothing, and interior economy of his company; he is invariably employed on field-works, instructional schools, &c., in addition, like every other royal engineer officer with the corps.

Captain W. North, R.E.

His duties are entirely of an office nature, and are very considerable. Though hardly any men are present with the 41st company, 122 belong to it, and he has to keep up the records of all and the correspondence connected with them.

He is not styled "commandant."

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

There is a great deal of paper work in this command, it being a skeleton company. He is simply one of the attached royal engineer officers.

56. In Bengal there are apparently 9 non-commissioned officers and 3 privates; in Madras 9 non-commissioned officers, 1 bugler, and 6 privates; and in Bombay 4 non-commissioned officers, 1 bugler, and 12 privates. How many detached non-commissioned officers and men are there on the rolls of each company? What are the duties of the non-commissioned officers?

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

The number varies according to circumstances; many were detached during the famine. There are always some with garrison instructors. Some are on the unattached list in the survey and public works departments.

There is apparently some misunderstanding concerning this and the following question (No. 57). They appear to have been taken from "Jameson's Code."*

The present organization is as follows:—

The 43rd company has a permanent strength of one captain, 1 company sergeant-major, with a fluctuating strength of sergeants, 1st and 2nd corporals, and sappers according to the requirements of the service.

The men are employed—

(a) With the sappers and miners (Native companies).

(b) On the public works department as overseers, &c.

(c) In the corps workshops at the head-quarters of the corps. They in addition take (except b) all the usual duties of a royal engineer company.

Captain W. North, R.E.

At present there are actually with the 41st company, royal engineers, thirteen non-commissioned officers, and detached 109 non-commissioned officers.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

There are, or should be, 60 British non-commissioned officers for the 10 companies of sappers, and 4 staff sergeants with head-quarters. I have not data by me to answer further. Their duties consist of superintending. Some assist in the park at their trades, others in offices and schools of instruction. All seem fully and constantly employed.

57. What are the "supernumerary non-commissioned officers and men" of the 43rd company in the Bombay presidency?

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

It is not understood what is meant by "supernumerary non-commissioned officers and men"; there are none with the 43rd company, royal engineers.

* These were the numbers given in the estimates, 1879-80.—Secretary.

58. Who is the head of the royal engineers in India ?

Lieutenant-General C. W. Hutchinson, R.E., Inspector-General of Military Works.

Previous to 1254 the senior officer of engineers in the presidency held the appointment of chief engineer of the army, with a seat at the Military Board, and was the recognized head of the regiment.

In 1854 the Military Board was abolished, and the present Public Works Department was initiated.

With the abolition of the Military Board the function of the chief engineer of the army as a member of that Board ceased; but it was ordered that the senior officer of engineers for the time being should hold the title of "chief engineer of the army," whether he happened to be the (public works department) chief engineer of the Punjab, Burma, Central Provinces, or wherever he might be employed. His office and records, however, were established at the head-quarters of the sappers and miners.

After a few years, however, the title was formally abolished, and the corps of Bengal engineers ceased to have even a nominal head.

There is now no head of the royal engineers in India; and although nine battalions of the corps, numbering over 400 officers, are serving in India, the very semblance of military organization has been discarded.

My opinions on the necessity of remedying this want of military organization, and of appointing a recognized head to the regiment in India (Bengal presidency), are given in my answer to question 66.

Major-General F. R. Maunsell, C.B., R.E.

There has never been either an officially acknowledged head or a staff officer. The staff duties, as preparation of returns, some of the records of service, &c., are devolved on the commandant of sappers, and officers refer to him often for information, but he has no official position or right to answer them. Formerly there was an official commandant and an adjutant abolished in 1853, when the office papers were sent to sapper head-quarters.

Major-General A. Fraser, R.E.

I know of no head of the royal engineers in India other than the Commander-in-Chief.

Colonel J. G. Medley, R.E., Consulting Engineer to the Government of India, Railway Department.

There is no head any more than there is to the Bengal staff corps. In some respects this is a serious disadvantage, as the interests of the corps are not properly represented at army head-quarters in India. In selecting officers for field service, for instance, there is no one to advise the Commander-in-Chief in this matter, and the general impression is that the selection is made very much at haphazard, either from officers who press their wish to go, or from those who can best be spared from their civil duties.

The appointment of an assistant adjutant-general at head-quarters, if he were a royal engineer officer of sufficient rank and influence, which has often been proposed, would, I think, be very useful in this and other ways; and (59) his office should undoubtedly be the depository of all official records, plans, journals, &c., connected with military engineering operations in India. It may be seen how necessary such an office is when I state that there has never been any official account published of the siege operations of Delhi or Lucknow, or indeed, so far as I am aware, of any of the Indian campaigns. The experience therein gained is thus simply lost to the corps at large, and, on the occurrence of the next campaign, almost everything has to be improvised *de novo*.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

There is no head, but papers written by me are sometimes referred to Captain Blood or any officer who may be commanding the Bengal sappers. Matters of dress for royal engineers seem also to be referred to that officer.

Colonel the Hon'ble C. J. Merriman, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

I suppose the senior engineer officer. It used to be so in this presidency before the amalgamation, but there is no authoritative representative now that I am aware of.

Lieutenant-Colonel R. de Bonbel, R.E., Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on special duty in Bilibistan.

The senior officer of the corps present in India. One of the colonels commandant ought properly to fill this post, and to act as assistant adjutant-general of engineers with the Commander-in-Chief.

Lieutenant-Colonel A. M. Lang, R.E.

There is now no recognized head of the royal engineers in India, although 9 of the 17 battalions of officers of the corps serve in India.

As long as there are three Commanders-in-Chief in India, the command of the royal engineer officers serving in Bengal, Madras, and Bombay could not perhaps be conveniently vested in one officer. But for all parts of India, but the Madras and Bombay presidencies, the Inspector-General of Military Works (under the Supreme Government of India) should be the head of the corps.

If the posts of Commander-in-Chief in Madras and Bombay be abolished, the whole corps should be under the command of the Inspector-General of Military Works, who would then require one or more deputies to assist him.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

There is no head of the royal engineers in India, and it is chiefly to this, and to the fact that there has not been any representative officer of any sort at army head-quarters in any of the presidencies (the artillery have a deputy adjutant-general and an assistant deputy adjutant-general in Bengal and another in Madras), that so many anomalies and deficiencies have remained for so many years unadjusted.

For instance, in October 1870 the new organization of the Bombay corps of sappers and miners was issued in orders, but no steps were taken to carry out these orders entirely.

In this G. G. O. it expressly stated that all the officers were to be royal engineer officers, that there were to be five on staff and five company officers; these latter to be captains of royal engineers: ten in all. This complement has not been obtained, and no steps taken to obtain or enforce the services of royal engineer officers: so much the opposite, that we find in November 1871 another G. G. O. from Secretary, Public Works Department, No. 1235-51E.-G.,* published, in which by orders of the Governor General in Council the number of royal engineer officers to be permitted to remain on military duties is limited to three only; and on the strength of this order the royal engineer establishment of officers with the sappers (only five at the time) was further reduced to three (myself and two others), and this against the wish of the two officers taken away, as they would have from choice remained with the sappers and miners. This order has never been cancelled, and may be applied any day.

Such a state of affairs could never have existed had any officer of the royal engineers been attached to head-quarters, through whom any business had been transacted or correspondence passed, nor do I believe could the late G. G. O., July 1879, have been issued depriving the officer commanding royal engineers of the services of the sappers and miners (the representative royal engineers), and placing them under the more immediate control of the officer commanding sappers and miners.

I would point out that in no other corps or regiment is there any interference or direct issuing of orders to regimental or junior officers. For all batteries of artillery orders are issued through the officer commanding artillery; and if such is recognized to be proper for them, it is all the more absolutely necessary for the still more scientific branch of the engineers. The commanding engineer's position and duties, if properly executed and not curtailed, are of very grave importance, as he is the advisor of the general in all engineering matters, &c., while the artillery are generally only his executors in action; and I cannot deprecate too earnestly the lowering of the position of the officer commanding royal engineers and the withdrawal from his direction and control of the sappers and miners. Unhappily so seldom is a commanding royal engineer attached to any division, and so few generals have any opportunity of ascertaining the advantage of having such an officer on their staff, or being acquainted with the duties which devolve on him, that it is not surprising, since there is no officer at head-quarters to explain and adjust matters, that the present extraordinary state of matters has arisen.

There was in Bombay up to the amalgamation of the Queen's and East India Company's forces a commanding officer engineer in whose office records were kept, and through whom references were made on engineering matters to Government; a small office was attached to him.

This system was abolished in 1861, since when the corps has been like a vessel without a rudder, drifting all over the sea, no records kept, no plans drawn out, but all things in a state of chaos or rather annihilation.

Lieutenant-Colonel W. Hitchens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

There is no head to the royal engineers in India. I may mention that when I returned to this country after many years' absence in England and the Colonies, I could discover no officer to whom I was to report. There was no royal engineer officer in the Bengal presidency in military employ, except those specially attached to the sappers; and when I reported myself to the Adjutant-General, and asked for employment as a soldier under the Commander-in-Chief, the request was looked upon as so extraordinary, that my application was referred to the Military Member of Council; and I was sent to general duty, because no military employment could be found for an engineer officer of my rank. I would urge upon the Commission that, if it be thought desirable that any officers of the royal engineers be retained in this country, now that the old Bengal engineers, who seem to have acquiesced in the present (to my mind deplorable) position, are dying out, and their places are being taken by officers on the imperial list, this exclusion from military employment becomes a very serious question; and the very men who, as military engineers, it would be most desirable to have in India will refuse to come. I have served with the royal engineers for many years in England and elsewhere, and know how strong their feeling is on this matter.

Lieutenant-Colonel D. Limond,
R.E.

There is none. There should certainly be a deputy adjutant-general of royal engineers in India.

Lieutenant-Colonel W. H. Burton,
R.E.

I am unable to say who is the head of our corps in India. The corps is so minutely divided, either by presidencies, provinces, or by branches of public works department, that there are, I should think, some 13 or 14 different promoting authorities, possibly all promoting on

different principles. As an illustration showing how singularly my corps is divided up for the purposes of promotion, I and four other royal engineer officers are engaged in the same office on the same work; yet there are three different heads of departments or chiefs to whom we look for advancement. Is it likely we get the same measure of advancement meted out to all alike?

Captain W. North, R.E.

I presume the senior officer on military duty.

The records of engineer work in the field, sieges, &c., connected with the Bengal army are kept in the office of the Commandant, Bengal Sappers and Miners.

I suppose the public works department looks after the forts.

Captain J. Dundas, R.E.

The royal engineers have no head in India. They ought to have a deputy adjutant-general at army head-quarters.

Captain W. H. Pierson, R.E.

There is no head of the royal engineers in India.

The resulting absence of system and control is unfair both to the State and to the corps.

The disposal of royal engineer officers sent out to India is very much a matter of chance. There is no one to see that each officer is employed in the manner for which he is best qualified, or to keep a record of his services and character while in India. I have heard it stated at the Horse Guards that the want of such a record of the Indian services of officers is felt as a serious inconvenience when they return to England. The remedy is to recognize the senior officer not in purely civil employ as the commandant of the corps in India (this would probably be the Inspector-General of Military Works), and to appoint a deputy adjutant-general for royal engineers in India, following the English precedent. (In England there are only 8 battalions as against 9 in India.) Economy being an object, the latter appointment might be doubled with that of deputy inspector-general of fortifications (see reply to question No. 66) without increase of pay. I believe that these measures would be of great value in keeping up a healthy military tone in the corps of royal engineers serving in India.

Captain H. H. Cole, R.E., Executive Engineer.

There is no head of the royal engineers in the same sense that in England we have the Duke of Cambridge, the Inspector-General of Fortifications, and Deputy Adjutant-General, Royal Engineers.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

There is none; the commandant of royal engineers was abolished some years ago, although his office, with one clerk, exists at head-quarters, sapper and miners: *vide* G. O. No. 1004 of 10th October 1854.

59. What is the course of procedure when (a) technical engineer questions have to be considered, and what departments deal with them?

(b) Similarly, for military questions connected with barracks and fortifications, and for (c) questions relating to *personnel* of the engineers or the sappers and miners?

In what office are records of engineer work in the field, sieges, &c., and plans of forts retained?

Lieutenant-General C. W. Hutchinson, R.E., Inspector-General of Military Works.

Previous to 1872 all barracks and fortifications throughout India were in the charge of the Local Governments or Administrations, within the limits of whose jurisdiction they were situated.

Circulars and standard plans were from time to time issued by the Supreme Government fixing either broad principles or minor details in connection with barracks and cantonments; but there was no real centralization of authority or direction in regard to these classes of works.

The failure of certain new works, the general disrepair of military buildings, and the unsatisfactory mode of meeting the requirements of the army and of its superior officers, led in 1871 to the separation of military from civil public works throughout the Bengal presidency, and the centralization of direction and authority in regard to public works connected with the requirements of the army, in the hands of an inspector-general at the head of a special staff of officers.

It is therefore through the agency of this military works branch of the public works department that questions connected with barracks and fortifications are considered in this presidency.

The first task undertaken by the newly-organized military works branch was to collect and codify all the circulars and orders which (as above mentioned) had from time to time been issued, and to treat similarly all standard plans. On the basis of these orders, circulars, plans, &c. (revised where necessary), a complete and comprehensive scheme was elaborated, defining, for the first time with precision and order, the scale and nature of accommodation for each arm of the service, modified according to site, the strength and localities of the several garrisons, the authorized amount and form of barrack furniture, the relative duties of various officers and departments and the modes of proceeding.

During the past eight years improvements, revisions, and additions, where found to be necessary, have been introduced into this scheme; but, with these modifications, it still remains the basis of all proposals for the works annually carried out for the accommodation and service of the troops serving under His Excellency the Commander-in-Chief, and thus precision, method, and uniformity are insured in this branch of public business.

At every military cantonment a committee is assembled once a year to consider the most pressing requirements in regard to military public works. Their report, after criticism by the general commanding the division, and subsequently by the Commander-in-Chief, is transmitted to the Government of India in the Military Department, and the inspector-general of military works is supplied by the quarter-master-general with a list of requirements at all stations as finally approved by the Commander-in-Chief. The inspector-general of military works then combining these requirements with those communicated by the commissary general and the inspector-general of ordnance, and comparing them with the authorized scale of the scheme above described, and with the allotment assigned by the Supreme Government for the coming year, prepares a budget comprising such of the most urgent of these requirements as are in accordance with the authorized scale, and approved by the Commander-in-Chief, and which can be executed within the limits of the budget grant.

For the proper maintenance and repair of all military buildings, roads, &c., and for the execution of unforeseen minor works, a certain allotment from the budget grant is set apart.

This is the system now in force in this presidency; and with its centralization of authority, and its basis on one complete comprehensive scheme, it ensures uniformity of design and work, and steady methodical advance towards the completion of what have been decided to be the eventual requirements of the army in regard to accommodation.

This system is, in my experience, well suited for the object in view; and I would deprecate any violent changes in it; and especially any reversion to the former arrangements which gave over the public works requirements of the army to be amalgamated with the civil public works of the several Local Governments and Administrations.

Any modifications of system and procedure should be in the direction of a closer identification of the agency for carrying out military public works with the army, and the more distinctly military departments of the Government.

This would be facilitated by the elimination of the civil element from its establishments, the absolute control of the annual allotment for military public works by the Commander-in-Chief of the army, in consultation with his superior staff officers, and the closer connection between the inspector-general of military works and his staff of military officers with the Commander-in-Chief, the general commanding division, and officers commanding military stations.

In regard to fortifications, it is only within the last two years that attention has been strongly directed to the question of re-arming and improving existing forts, and providing new works where most required. Hitherto their maintenance has been under the same arrangement as that of barracks and other buildings, but lately all questions in reference to this class of works have been referred to the Defence Committee, whose members alone have the necessary leisure and opportunities for what is now more than ever a special department of the science of the soldier and engineer.

In my answers to questions 65 and 66 this subject will be more fully discussed.

As explained in my answer to question 58, there is no head to the corps of royal engineers in India, and there is no semblance even of military organization among the officers serving in this country.

While the artillery in India has always had a permanent staff at head-quarters to look after their interests, and has thus been maintained in an efficient state, the royal engineers have had no official representative either at head-quarters or anywhere else; and their military status has undergone the most complete degradation in consequence.

At the present moment if any royal engineer officer wishes to refer for the orders of Government any question outside his interests or duties in the department in which he is serving, such as questions of regimental promotion or duty, or of a personal nature, his reference is forwarded to the Adjutant-General's office, where there is no officer of his own corps, or specially interested in, or conversant with, the regulations, privileges, duties, &c., peculiar to royal engineers.

This evil could be remedied at a trifling or at no expense, if the plan be adopted of appointing the inspector-general of military works the recognized head of the corps in India (Bengal), and assigning to one of his superintending engineers the duties of deputy adjutant-general, as will be more fully discussed in my answers to question 66.

Major-General F. R. Maunsell,
C.B., R.E.

(a) No rule exists that I know of. I think the Commander-in-Chief obtains through his adjutant-general the necessary information, such officers as are thought best qualified being referred to. A former Commander-in-Chief mentioned to me the difficulty he had in this matter; he generally referred, he said, to the inspector-general of royal artillery, and he said the want of an engineer on his staff was anomalous and awkward.

(b) I understand a defence committee exist for this object.

(c) Questions regarding sappers are often, though not invariably, or necessarily, referred to their commandant.

Scientific questions of miscellaneous description are often referred to the commandant of sappers. As a rule, he has better means of answering such, and indeed questions concerning detail of engineer organization than any one else.

The records of many of these are kept in the commandant of sappers' office; the royal engineer office looked to by the clerk who compiles the returns of the royal engineers in Bengal, but the system is not definitely arranged.

Major-General A. Fraser, R.E.

Where technical military engineer questions have to be considered, the Commander-in-Chief issues the orders.

Where military questions connected with barracks, fortifications, or the personnel of the engineer corps (except in purely irrigation duties) are concerned, the Public Works Department issues the orders after consultation with the Military Department.

Records of engineering work in the field, sieges, &c., would probably be retained in the office of the adjutant-general; plans of forts, &c., are kept in the office of the executive engineer of the division; but some more definite organization is required in these matters.

Colonel H. N. D. Prendergast,
R. E., Commandant "Queen's Own"
Sappers and Miners, Madras.

Technical engineering military questions are sometimes referred to the commandant of sappers, but not military questions connected with barracks and fortifications. Questions relating to the *personnel* of the engineers and sappers pass through the Military Department, the adjutant-general, and commandant of sappers. The records of engineer work in the field, sieges, plans of forts, &c., are kept by the quarter-master-general.

Colonel the Hon'ble C. J. Mer-
riman, C. S. I., Acting Secretary to
the Government of Bombay, Public
Works Department.

There is, I should (a) say, no fixed course of procedure. The quarter-master-general's department would probably deal with such questions, taking the opinion of the engineer officer of the district.

(b) These matters are usually dealt with by committees assembled for the purpose specially, one or more engineer officers being selected to sit on the board.

(c) Such questions are arranged by the Government or by the Commander-in-Chief.

There is no fixed office for the retention of such records that I am aware of since the abolition of the office of the commandant of engineers.

(a) Technical engineer questions seldom arise; might be referred by the senior engineer as assistant adjutant-general to His Excellency the Commander-in-Chief.

(b) These are usually settled by the general commanding the division, by the Commander-in-Chief, or by the Military Department of the Government of India, according to their respective powers, the military works branch of the Public Works Department expressing its opinion through its officers, local and at head-quarters.

Lieutenant-Colonel R. deBourbel,
Consulting Engineer to the Gov-
ernment of India for Guaranteed
Railways at Lucknow, now on spe-
cial duty in Beluchistan.

The Public Works Department deals with engineering questions generally; and the military works branch of that department deals with questions of barracks and fortifications, the procedure being that laid down in the Public Works Department Code.

The execution of works on barracks and fortifications in the Bengal presidency (as well as of military roads, cantonments, water-supply, and barrack furniture) is at present in the hands of executive and assistant engineers, both civil and military, working under the central control of the inspector-general of military works.

For these works an annual budget grant is allotted by the supreme Government in the Public Works Department, and the choice of the works on which this grant is to be spent is settled by the Commander-in-Chief and Military Department on a selection from the works recommended by committees convened in every cantonment.

In this selection the Commander-in-Chief and Military Department are guided by an approved scheme of accommodation for the troops in the presidency. The elaboration of this scheme and of standard designs has been effected by the inspector-general military works and his staff.

In regard to fortifications (which of course form part of the works under the inspector-general of military works), during the past two years a central committee has sat at Simla for the elaboration of large projects; and to this committee questions concerning defences and armament are now referred for consideration and opinion; but all work is carried out under the orders of the inspector-general of military works.

For questions connected with the *personnel* of the engineers, there is no recognized special authority. There should be at army head-quarters, as one of the staff of the inspector-general of military works, an officer discharging the duties of a deputy adjutant-general of engineers.

There is, I believe, no organization for recording engineer operations in the field. The office of the inspector-general of military works, if he be recognized as head of the corps, and have a suitable head-quarters staff, would seem the natural repository for such records; as well as of all plans of fortresses and fortified forts existing and projected.

Lieutenant-Colonel J. Hills,
R. E., Commanding Bombay Sappers
and Miners.

If by the technical questions (a) it is meant engineering questions concerning pontoons, ladders, &c., &c., they have been as a rule forwarded to the officer commanding sappers and miners for report from the quarter-master-general of the army; but (b) military questions concerning barracks and fortifications have passed, as far as I am aware of, entirely into the hands of the civil powers—the Public Works Department; for instance, the fort which it was intended to have constructed at Kirkee to protect the powder-works, &c., was, I believe, designed and drawn out by the executive engineer of Poona of that particular period, who is entirely under the civil power as distinct from the military.

The mere *personnel* of the sappers and miners has been conducted between the adjutant-general, Bombay, and the officer commanding sappers and miners. But in all these transactions the utility and absolute necessity of an officer of royal engineers at head-quarters becomes more and more apparent.

Unfortunately now-a-days, somewhat similarly to the fact that every man considers himself more or less a doctor, almost every officer in the army of any standing considers himself more or less competent to conduct the duties which ought to devolve upon officers of the royal engineers; in this they quite overlook the fact that it requires a special study for five years before a thoroughly effective royal engineer officer is developed, and that the majority of these officers have been proved to be of greater talent than the ordinary average of the officers of the remainder of the army. It is curious and edifying to note the difference between the use of engineer officers in the Continental armies—men who do not receive nearly so good or high a standard of education as our own do, how they are specially consulted and how distinct are their duties. Compare this with the casual way the work in our army in India is carried on by anyone or by anybody; there can be but little doubt that the position and duties of an engineer officer in India are not valued at their proper worth.

Records of engineer work are possibly kept in the quarter-master-general's office, though there ought to be a special office for such papers at the head-quarters sappers and miners of each presidency. There is no accommodation of any sort at present built with head-quarters sappers and miners in this presidency.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field Force.

(a) I am not aware, but I presume a technical question on military engineering would be referred to the officer commanding sappers and miners at Roorkee, at the present time I believe a young captain royal engineer.

(b) These have hitherto, I believe, been wholly in the hands of the public works department, a purely civil department, to which arrangement may, I think, be attributed the present melancholy spectacle of the arsenal at Rawal Pindi. Lately questions of any importance with regard to fortifications have been with much advantage referred to the defence committee.

(c) I apprehend that there is no royal engineer officer in India who has the smallest right to advise the military authorities with regard to the employment of engineer officers in the field. If there had been, I don't think we should have seen the royal engineer staff of the 1st Division, Southern Afghanistan Field Force, composed of a lieutenant-colonel commanding royal engineers, his second-in-command, his brigade-major, a regimental field officer, and then a group of subalterns.

Engineer records of work in the field, &c., are forwarded to the quarter-master-general's office. Whether they are retained or not I am unable to say; but I know that when, some time ago, I urged Colonel George Chesney, Royal Engineers, who was brigade-major of engineers at the siege of Delhi, to write some account of the engineering operations at that siege, he told me he had been quite unable to find any trace of his records, although he had kept and forwarded a most careful diary.

I know of no existing record of any military engineering operations that have been undertaken in India, and certainly none such have been published within my recollection.

Lieutenant-Colonel D. Limond, R.E.

If of importance, they would probably be dealt with by a special committee assembled under the orders of the Government of India or His Excellency the Commander-in-Chief.

Questions regarding fortifications would now be dealt with by the defence committee; regarding barracks, by the inspector-general of military works.

Questions regarding *personnel* of the sappers by the Military Department, and of officers of engineers by the heads of departments under whom they might happen to be serving.

Field records I should think would be found in the office of the quarter-master-general. Plans of forts are recorded in many offices, quarter-master-general's, Government of India, Military and Public Works Departments; also in local offices of the military works branch, public works department.

Lieutenant-Colonel W. H. Burton, R.E.

(a) I believe the adjutant-general would deal with such under the orders of the Commander-in-Chief. As an instance of how, even in the adjutant-general's department, different measures are meted out to two officers supposed to be serving under similar conditions, a claim was made against two lieutenant-colonels, royal engineers, for donation to sapper mess on promotion, resisted by each, and on appeal—the one to the Commander-in-Chief in India, the other to the Commander-in-Chief in Madras—two different decisions and results were arrived at.

(b) Military questions connected with barracks and fortifications in any of the Madras military divisions would be dealt with by the secretary to Government and quarter-master-general, Madras, and if necessary, as for instance in the Nagpore force and Hyderabad force, would be referred for execution to the Government of India. The Government of India would receive such I believe in the military department, which would transfer it to the public works department, by which channel it would reach the inspector-general of military works, who would at length be enabled to deal with such questions. This circuitous procedure, I think, requires a remedy.

(c) Questions relating to the *personnel* of the royal engineers of the public works department would be dealt with by the Governor in Council; but of those engineers attached to the sappers and miners, by the Commander-in-Chief.

Records of engineer work are kept I believe in the office of the public works department under the Government of India.

Captain J. Dundas, R.E.

(a) Technical engineer questions are usually disposed of by orders in the Military Department. As to these, the Commander-in-Chief has sometimes consulted the officer commanding the sappers, and the Military Department often refers to the public works department.

At the present moment an agency exists in the defence committee for the consideration and settlement of such questions. But this committee is not a permanent one. The deputy adjutant-general would be a proper referee.

(b) Military questions connected with barracks are settled in the military department on suggestions made by the inspector-general of military works or the public works department. Matters of fortification are usually referred to the defence committee, whose place would be taken by the deputy adjutant-general.

(c) Questions of *personnel* relating to the sappers are settled by His Excellency the Commander-in-Chief and the Military Department, but that department has agreed* to leave to the Public Works Department all matters relating to the employment of royal engineer officers on other than purely military duties.

Records of engineer work in the field are (if at all) probably to be found in the quarter-master-general's office. The deputy adjutant-general's office would be the place for these.

Plans of forts exist in this office of the executive engineer and of the public works department and military secretariats, as well as in the quarter-master-general's office.

Captain W. H. Pierson, R.E.

In the Bengal presidency twenty-nine forts are in the charge of the inspector-general of military works, and arrangements are being made for a complete set of plans of these. Six minor forts are in charge of Local Governments. Questions connected with barracks and fortifications, sent up by the inspector-general, pass through the public works secretariat to the military secretariat, and the orders of Government return through the same circuitous channel. Recently, however, many questions relating to forts and armaments have been referred, both by the public works and military departments, to the defence committee for report, and the preparation of designs and estimates where required. This procedure has worked well as a commencement, considering the accumulation of long pending and intricate questions that have to be carefully examined. The committee as at present constituted (*viz.*, consulting naval officer to Government, quarter-master-general, inspector general of ordnance, one artillery and three engineer officers) is to be dissolved; but the experience gained proves the necessity, in the interests of economy and of efficiency, and for the facility of arriving at final decisions, of referring all such questions to some similar body of officers (if possible of high standing in the service) before they are submitted for the sanction of Government. In the Bombay and Madras presidencies these questions are to a great extent dealt with locally, and it needs but an inspection of the existing defences of Bombay, and a comparison of the result attained with the money actually expended to show that all future projects of this nature should be subjected to the searching criticism of specially qualified officers under the immediate control of the Supreme Government. This point will be again noticed in my answer to question No. 66.

(a) Technical military engineering goes through public works department.

(b) Military buildings are under the inspector-general of military works. There is no permanent and systematic organization for dealing

Captain H. H. Cole, R.E., Executive Engineer.

* The arrangement was published by Public Works Department Resolution No. 1235-51 E. G. of 28th October 1871.
See page 466.

with the defences of India. Captain Featherstonehaugh, R.E., has charge of torpedoes under the quarter-master-general. There is no deputy adjutant-general, royal engineers.

(c) The military *personnel* is dealt with under the Commander-in-Chief; but when officers in the public works or other civil department are applied for by the army authorities, the *personnel* question is dealt with by Mr. Sampson, Under-Secretary in the Public Works Department, and by the secretaries of departments concerned.

Records of engineer work are kept in the office of commandant of royal engineers at Roorkee.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

60. What instruction does the corps of royal engineers in this country impart to the army in general in military engineering ?

Major-General F. E. Maunsell, C.B., R.E.

None, except on rare and special occasions and to limited numbers, as at camps of exercise. A few cavalry soldiers have sometimes been taught sketching and reconnaissance. Indeed, all royal engineer officers are specially employed on other duties, and very few of them on purely military duties.

Major-General A. Fraser, R.E.

The corps of the royal engineers in this country imparts no instruction that I am aware of to the army in general in military engineering.

None that I am aware of.

Colonel J. G. Medley, R.E., Consulting Engineer to the Government of India, Railway Department.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

The corps of royal engineers imparts no instruction to the army in general, except on field service, in camps of exercise, and occasional engineer field days at Bangalore.

Colonel the Hon'ble C. J. Merriman, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

Little, if any at all, as at present organized. The corps is not in a position in this country to undertake it.

Lieutenant-Colonel R. deBourbel, Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on special duty in Biluchistan.

At all military stations in India where the officers commanding detail working-parties of soldiers for employment on military and other works in progress, practical instruction in many branches is given by the public works officers in charge. If this mode of instruction, the best of all, were more resorted to, all officers and soldiers might learn more or less the simple work alluded to in the question. No amount of theoretical teaching on the part of royal engineer officers would be of much use to the ordinary soldier.

Army signalling is taught by royal engineer officers to line classes at the three presidencies. In some of the garrison classes many royal engineer officers were instructors.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

The corps of royal engineers does not give any instruction to the army at large in military engineering, but army signalling instruction is carried out under the orders of the commandant of the sappers and miners, assisted by an officer of the royal engineers as instructor of army signalling. The duties of this officer have already been detailed.

Lieutenant-Colonel W. Hichens, Commanding Royal Engineers, Southern Afghanistan Field Force.

None whatever.

Lieutenant-Colonel D. Limond, R.E.

There is no regular system of instruction. Instruction in escalading is sometimes given if applied for.

Captain W. North, R.E.

None that I know of, except in a very casual way.

Captain W. H. Pierson, R.E.

No arrangements have yet been made to enable the corps of royal engineers in this country to impart instruction to the army in general.

Captain H. H. Cole, R.E., Executive Engineer.

None, except in actual service.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

The detachments sent to the Thomason College at Roorkee go through a course of military engineering with the sappers and miners. Detachments of sappers are also detailed for to assist in the garrison school classes.

61. (a) Ought not soldiers of all arms, whether British or Native, to be taught such elementary military engineering work as is necessary on field service? For example, should they not be able to construct shelter of some kind with available materials, and execute the simple engineering work required in camp, &c.?

(b) If you consider that something is necessary in this direction, how would you propose to remedy the defects in the present training?

Major-General F. R. Maunsell,
C.B., R.E.

(a) I think that all soldiers should be trained to some engineering, or at any rate to work. I was of opinion at the time of the last reorganization of the Native army that their duties as workmen should be specially emphasized, and that the principle carried out in raising pioneer regiments should be more widely established. I am of opinion that the existing arrangement of only using a peculiar class of men, who, though very good soldiers and workmen, and highly appreciated (by no one more than myself), being of a class condemned by other Natives, tends to discredit or debase the idea of working. Natives naturally argue, if you talk so much of work, and pretend that it is an honorable and good thing, why do you take care only to employ men *we* all look down upon. I have had many a soldier punished for deprecating work to the sappers. Many years ago there was a grand fight at Delhi between a regiment that bullied the sappers as beneath them as coolies, in which the sappers, who were on their own dunghill there, were joined by some artillery and their own British non-commissioned officer. No; I am sure that other men besides Muzbees should also be made pioneers.

We find an enormous difference between infantry men who have had any training and those who have had none; the work on the hill roads is a very good training (besides the climate). My own idea has long been that there should be some ten men per company well trained in each regiment. Without an enormous staff of instructors and plenty of time, I have long found that one cannot usefully train large numbers quickly, and that the staff available is better employed upon very thoroughly training small numbers at a time. Inducements should be offered—not necessarily money.

Each company of the line would thus have ten or a dozen men able to do something, and the whole eighty or a hundred would turn out a respectable body of workmen. They should be picked men and have a badge; they might be given some advantages, work found for them now and then with working pay, &c.

An officer of the regiment should also be able to look after their working.

I have several times made attempt at taking up this question as well as the instruction of officers, but not very successfully, and I moreover found that my own staff would not take up any regular business of this sort without neglecting their regimental duties.

(b) As to anything being absolutely necessary, I must say, however, that the system I sketch would be more than seems to be attempted in any other army. Still, considering the very small number of sappers in this army, I do think that either they should be increased, or that their want should be supplemented by some system; though I do not think that any makeshift could supply the want of efficient trained sappers.

As to the measures required to carry out such instructions, I do not understand that the 23rd and 32nd Punjab Native Infantry (pioneers) undergo any regular training, but that they pick up their experience as they happen to be on the works, and that they start just as any other regiment would, with some tools and artisans added.

To carry out a system, a sufficient number of instructors would be required, British non-commissioned officers and Natives, and this not so easy a matter. The sappers have difficulties as to the style of British men generally sent from England, and have to train and try them for some time.

The object would be to spread the system as widely, and to render it as soon useful as possible; for this a short course to the minimum number per regiment that would be likely to be useful in it for some time, say four or five men per company. It should at first be at sapper head-quarters, though subsequently it might be extended. To maintain it, practice should be given and inspections, and for this an officer and an assistant instructor should visit the different regiments. It would be most important to get commanding officers to interest themselves about this.

This suggests to me a convenient way of supplying a double want, namely, the want of an inspector for army signalling. I think the same officer might undertake both jobs—signalling and field works.

Some detail systematizing would be necessary. I would have printed instructions in three parts: 1st, for simple execution necessary for all;

2nd, a few principles of defence; 3rd, lining out; also the men instructed should have certificates on three scales in accordance with these divisions.

Major-General A. Fraser, R.E.

In my opinion soldiers of all arms, whether British or Native, should be taught such elementary engineering work as is necessary on full service; the sapper head-quarters should be a school of military engineering, and an officer and some non-commissioned officers should be sent yearly from each regiment for training. I look upon the non-commissioned officers as the backbone of the army, and attach the greatest importance to their careful selection and training, and it is on this account specially the necessity of giving proper training to soldiers of other arms, both European and Native, that I suggest that a definite part of the sappers be European.

Colonel J. G. Medley, R.E., Consulting Engineer to the Government of India, Railway Department.

(a) Most certainly. The difficulty is to persuade commanding officers of the necessity. As a rule, it may be said that work with the shovel and pick is very unpopular with officers and men of the line in the British service—certainly in time of war. There is an idea that it is unmilitary, that it spoils the men's setting up, and makes them slovenly, &c.; and most royal engineer officers would far rather have gangs of coolies to throw up a battery or make a road than working parties of soldiers.

(b) The best way to remove this feeling (which is often very mischievous on service) would be to do what was done a few years ago in England, *i.e.*, to send selected parties of officers, non-commissioned officers, and men from line regiments in rotation to the sapper head-quarters, to be instructed in the use and practice of the simpler operations of field engineering, so that they might act as instructors to their own regiment on their return. A certain portion of the drill season should be regularly set apart for this kind of work; and the general's inspection of the regiment should include a report on the proficiency of the men and officers in throwing up shelter-trenches, rifle-pits, and similar useful work. The men should get working pay while so employed. When I was last at Chatham, seven years ago, a party of the guards was down there under instruction, and worked right well, the officers setting an excellent example to the men by taking off their coats and working amongst them like common navvies. Where there is this sort of spirit, the business is easy enough; and in this, as in other matters of the same sort, very much depends on the commanding officer.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

Colonel the Hon'ble C. J. Merriman, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

(a) Yes. Officers commanding regiments should be ordered to teach their men a sort course of simple and useful field expedients.

(a) I would confine the engineering work to the engineers and sappers, but the soldiers of all arms should be able to use the pick and shovel so as to aid in throwing up field works on an emergency.

(b) I would supply them with tools and give them a working parade once a week on a field work. They might often be usefully employed in cutting drainage channels and filling up hollows, &c., in or near their cantonment.

Vide answer 60.

Lieutenant-Colonel R. de Bourbol, R.E., Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on duty in Biluchistan.

Lieutenant-Colonel A. M. Lang, R.E.

The head-quarters of the sappers and miners should be a field for training the line in elementary field engineering, in signalling, &c. Detachments from regiments stationed near Roorkee, Kirkee, or Bangalore should spend over two months during the winter in camp at the sapper head-quarters, and join with the sappers in siege operations. The officers and non-commissioned officers of these detachments could act as instructors to their regiments.

The commanding royal engineer and garrison engineers of the military works will have on the redneed scale of establishment too much work on their hands to act as instructors in garrisons. But if all royal engineer subalterns on landing in India be posted as supernumeraries to the military works branch, they might be utilized occasionally to assist the regimental officers (who had passed through a course of field engineering as above proposed) in teaching the men of their regiments.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

No; I think it would be a waste of time to force them through a course of anything but simple shelter trenches, &c.; but I think it would be highly advantageous were they taught the use of the pick and shovel in a thoroughly effective manner; the more practice they have with these tools the better, and the cost would be but a trifle. To this end all

works around a camp should be executed by detachments of the line, &c., if necessary under the supervision of a few sappers. The duties of these latter are special, and it is not their work (as is so often understood by infantry and cavalry officers) to undertake the rough ordinary labor in throwing up earth, to raise the roads or dig rough trenches to drain a camp, &c.; these should be executed by line parties working if desired under sapper direction, one sapper to each 10 or 20 line-men being told off to supervise the several smaller tasks. The excess of sappers (should there be any) would be detailed for the performance of the most difficult portions requiring skilled labor, as emplacement for guns and light bridges over drains, shelter cover, blindages, &c., &c. I would most strongly impress the use of the pick and shovel on the line, in order that they may fully understand and execute their portion of all work, and leave to the sappers the directing and supervising head, the regulation of his proper duties, which I may add are *not* to make the ordinary drains about a camp, clear the latter of stones, and do battalion drill and act as skirmishers on service, all of which duties I have seen them called upon to perform in the field.

At the same time, I am strongly of opinion that there should be incorporated in each regiment, on a trifle more pay, a certain number of men who have been well trained in military engineering duties to replace the old system of the pioneers. These men would guide and direct the regiment if detached from head-quarters on any earth-works or trenches thought necessary on the spur of the moment, could throw up barricades, set up obstacles, make rifle-pits, construct small rafts to enable parties to cross streams, and make any temporary bridges about a camp.

These men should be passed through a regular course of service and training for at least three years with the head-quarters of the sappers and miners. The regular field work course for recruits is about a year in duration, but in this instance greater practical acquaintance with each subject, not only to execute but to supervise, is required; and hence they ought to remain for at least three years, learning during this time some particular handiwork in addition to the general knowledge he may be acquiring.

These men ought to consist of three or four of the pick of each year's recruits, none but men of intelligence being chosen, and who having been thoroughly taught their drill and gone through satisfactorily the musketry exercise, should then be sent to the head-quarters of sappers and miners for their additional training in military engineering.

Supposing three or four annually were chosen from the passed recruits, there would be 12 or 16 men of each regiment undergoing this course of training, each batch of whom would at the end of third or fourth year return a practical man to his regiment, where he would serve about 15 years more.

Following this out, we obtain after the system is in full application from 50 to 60 really well-trained men in each regiment, who would form even of themselves enough in numerical strength to carry out a considerable work, such as a spanbridge, &c., &c.; these men could be, moreover, utilized in teaching and supervising the remainder of the regiment in the use of the pick and shovel. Any attempt to improve the general knowledge of the majority would, in my opinion, do more harm than good, as tending to unsteady them and by tasking them with work unaided, lead them to be slack and inattentive to the other more important duties of a regiment, *viz.*, drill and musketry exercise.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineer,
Southern Afghanistan Field
Force.

(a) I think certainly.

(b) If the organization of royal engineers was carried out in this country as it is at home, and as I hope it may be here, there would be no difficulty. The officer in charge of all military works should be the commanding royal engineer of the division on the staff of the general. He would have one or more companies of sappers and miners at head-quarters with their officers, who during the drill season could be employed in putting the troops through a short course of instruction in field-works, &c. The royal engineer workshops would be available for the instruction of such soldiers of the line as had any turn for artificer's work, and the men thus taught would be available for the maintenance and repair of their own barracks. In a very short time I should hope to see every regiment with its carpenter's and smith's shop, where interesting and profitable employment would be found for the men, their comfort and health in cantonments would be improved, and their efficiency in the field vastly increased.

Lieutenant-Colonel D. Limond,
R.E.

(a) It would certainly be attended with benefit; but there would be considerable practical difficulties in giving instruction beyond the construction of field works. For instance, a company cannot be told to hut themselves without damage to private property resulting. Types of huts could be put up by military labor, but I doubt much benefit arising.

(d) I am more in favor of introducing the actual construction of field works in our winter sham fights: more interest would attach to such a course than in the ease of the lesson being on the parade ground. There are engineer officers in every large military station, and I see no difficulty in giving any instruction requisite.

Lieutenant-Colonel W. H. Burton, R.E.

(a) I do not think that, as a general rule, any elementary military engineering work further than that which is involved in shelter trenches and the heavy earth-work in field works generally, or in roads over rough ground or jungles, may be expected from either British or Native infantry, however carefully they may have been previously trained by the royal engineers.

Still I believe that the instruction of a corps in hutting themselves might be found to have been advantageous under very favorable circumstances.

(b) The senior royal engineer officer in the district in which such regiments are serving should every year detail one of his officers to superintend an instruction for each corps in his district in the above-mentioned elementary engineering works, and see that each is put through a regular course.

Captain J. Dundas, R.E.

(a) Certainly; they should be able to do for themselves as far as possible all simple camp matters, &c.

(b) This must be done by regimental officers. If thought necessary, a special officer might be appointed in the same way as an inspector of musketry is appointed, who might perhaps go through a short course with the sappers. But as the main work to be learned would be of a common-sense kind, the best training would be to have the troops in camp and actually marching as much as possible. In fine weather in the hills marching without tents might be practised.

Captain W. H. Pierson, R.E.

(a) Soldiers of all arms, whether British or Native, should undoubtedly be taught such elementary engineering work as is necessary on field service.

(b) I have already remarked (in answer to question No. 11) that to enable soldiers to understand the nature and object of field works, and to avoid discouraging them by excessive physical labor, it is important that the number of men under instruction should be as large as possible. Every regiment in a station should consequently be put through a course of field works at the same time. The programme of subjects to be taught, the length of time to be devoted to the course, and the intervals between each course of instruction, will require very careful consideration, and should be laid down in general orders. The local direction of the instruction at each station could then be entrusted to the garrison engineer and his assistants, in communication with the field works instructor at Roorkee.

Captain H. H. Cole, R.E., Executive Engineer.

(a) Certainly.

(b) Officers of royal engineers should be attached to the staffs of generals for the purpose of instructing the troops in signalling, hutting, and simple engineering work.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

All soldiers, British and Native, ought certainly to be able to work at trench and other shelter work; also drainage of camps and military road-making. The regiments of foot guards, rifles and line all went through a short course of such work in 1853-54 at Chatham before the Crimean War, and the splendid guards were found to be the best workmen. There is no disgrace in digging. I have superintended as a sapper the nobility of England, officers in the guards at such work, done with a right good will.

I would put the articles of war in force, and let digging be part of the duty of every soldier, British or Native, in the army.

62. Do you not consider that officers of royal engineers, whether employed in this country on civil or military works, should, either when on furlough (as lately provided for at Chatham) or out here, say every five years, refresh their military knowledge by a few months' course at purely military engineering and military duty?

Lieutenant-General G. W. Hutchinson, R.E., Inspector-General of Military Works.

If the system advocated in my answers to question 66 be adopted, whereby the connection between the officers of the military works branch and the army staff be more closely drawn, the royal engineer officers of that branch will have their military organization on a proper footing, and their military habits and instincts kept alive; and as members of the staff of general and commanding officers, they will have opportunities of refreshing their knowledge of drill and tactics, and of occasionally attending camps of exercise and improving their acquire-

ments in strategy and military engineering. For such officers there would be no need for a return to Chatham or Roorkee, except on the occasion of their qualifying for regimental promotion.

But in the case of royal engineer officers other than those employed with the sappers or on military works, a certain fixed course of training at Chatham or Roorkee, after a prescribed period of departmental service, would be necessary to keep up the knowledge of military engineering, which it is the obvious duty of every royal engineer officer at all times to possess.

If this necessity be officially recognized and orders issued in regard to it, the position of these officers, both at Chatham and at Roorkee, should be distinctly defined, so that they should not be received at the schools of military engineering as amateurs merely permitted to learn what they can, while having no recognized official status on the establishment; but they should be brought on the strength of the establishment at head-quarters of the regiment having clearly defined position and duties.

Major-General F. R. Maunsell,
C.B., R.E.

I think that royal engineer officers who are liable to join the army in the field in staff posts should be refreshed as to their knowledge of ordinary military business and discipline. I think they are generally most wanting in these points and in ideas of military organization and of the relation and subordination between the different ranks, both for professional works and other duties. No doubt the more officers who can get this refreshment the better. I would give those on actual military duty the preference, *i.e.*, at Chatham, and next those likely to get it. Engineers joining from public works have acquired great praise in employing the people of the country and in works and material, which is an advantage. Acquaintance with military duties is their chief deficiency.

Major-General A. Fraser, R.E.

I also consider it of great importance that the officers of royal engineers employed in this country on civil works should from time to time refresh their military knowledge by a course of purely military engineering and military duty; but I consider that such a course once every seven years would be sufficient.

Colonel J. G. Medley, R.E.,
Consulting Engineer to the
Government of India, Railway
Department.

As regards general military duty, most decidedly. I would attach them for six months to the staff of a general officer, especially if there was a camp of exercise going on. A return to the sappers would scarcely be necessary, unless for a very short time (say a month), to give them the opportunity of seeing the most recent improvements in military engineering. It is to be borne in mind that the ordinary duties of a military engineer in the field are not very difficult or recalcitrant; and the mere technical knowledge is such as any officer of fair intelligence can readily acquire. One royal engineer is a better service officer than another, not because he can draw better plans or is a better mathematician, but because he has greater energy, self-reliance, and readiness of resource; and these qualities are as likely to be developed in civil as in military employ. In the whole body of royal engineers, the Government has, I venture to think, not merely a certain number of officers taught to build batteries, to make bridges, or to blow up towers,—for these are things very easily acquired,—but a body of highly educated officers, employed in very various duties, out of whom it can always find, when required, men fit to undertake almost any duty that can be named. That, to my mind, is the real utility of the corps to the State and its highest claim to distinction. As in the case of the Indian civil service, it is in the varied and responsible nature of its duties that it finds at once its best training and its claim to merit. And I should be very sorry to see any attempt to narrow the field of that duty and training under a false idea of the requirements of military service. I should even deprecate any attempt to confine the military engineer to what are called military works, as being the more legitimate sphere of his duties, believing, as I do, that the more varied the field of employment and instruction afforded to the officers of the corps, the greater is the certainty of their purely military duties being well performed. But though I take this very comprehensive view of the functions and capacity of the corps to which I have the honor to belong, I am very strongly in favor of maintaining that military spirit and organization which will always be the best preservative of integrity, high public spirit, and *esprit de corps*.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's
Own" Sappers and Miners,
Madras.

Yes, and greater facilities should be afforded the commandants of sappers and miners for keeping up with the military fashions. To show how far behind we are, I may mention that I have never yet been able to obtain any gun-cotton. All useful papers touching engineering questions should be circulated to commandants of corps. Papers from the Defence Committee would be valuable.

Colonel the Hon'ble. C. J. Merriman, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

Lieutenant-Colonel R. de Bourbel, R.E., Consulting Engineer to the Government of India for Guaranteed Railways at Lucknow, now on special duty in Biluchistan.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

I think so most decidedly : but there are no facilities at present for such an arrangement in this country, and I think it would be better in every respect to let the officers follow the course at Chatham.

One year in every ten of service would suffice for this purpose. The existing rules provide the means for this. An officer in the royal engineers is now sent out to India for seven years, at the end of which he can either go home on military duty or serve one year more in India to entitle him to a furlough of two years, one of which he can, and should, spend at Chatham at the royal engineer establishment. There is no occasion for any additional rule for further military training in India if, whenever camps of exercise are held in India, a full complement of royal engineers be ordered to attend as heretofore.

Royal engineer officers now come out for seven years' service, and would when their tour is accomplished return to duty to Chatham, where they would revert to their military duties ; but those officers who had elected to remain beyond their tour of service in India might undoubtedly be sent with advantage to the head-quarters of the sappers for a few months, for instance on promotion or when they return from furlough.

As strong as my views are on the necessity of returning for a short period each engineer officer to the head-quarters of corps in order to enable him to brush off the cobweb of rust from his brain and revive his memory and knowledge of the minor details of the military portion of his profession, they are equally so as to the disadvantage of retaining young officers with the corps for any length of time, unless they have some special duty or appointment, as commanding a company, &c. ; for, in my opinion, the more independent and responsible work a young officer has to perform, the better it is for his general training and character. A well-trained young engineer officer never will forget the general principles instilled into him so carefully in his five years' education. He may and probably will forget the petty details and become rusty in his drill, but a comparatively short sojourn with head-quarters from time to time would sufficiently clear up his former knowledge. At the same time the roll and the organization of the sappers and miners should be kept fully complete and up to all requirements, and for such a purpose a very fair number of officers whose duties are ample are required ; any above the number should be drafted into the public works department till, should he prefer purely military life, a vacancy occurs in the corps, when he might return all the better from his brief glimpse of work executed by the great civil departmental branch of engineering.

Certainly ; but I do not think any good would be derived from a sojourn at Roorkee.

In my opinion, the best arrangement would be that all royal engineer officers should return to Chatham immediately on their promotion to the rank of captain and major, unless they had put in a year's service at the school of military engineering after the first and second tours of seven years in this country. A year is much more than is required to freshen their knowledge of military engineering, except as regards the construction of sea defences and iron batteries, which are special subjects ; but not, I think, more than is necessary for military duty.

A long service in the public works department in this country tends to deaden and destroy all soldierlike feeling and habits of discipline ; and my experience is that, after long years of uninterrupted civil work, many royal engineer officers are more inclined to criticize than to obey orders. This tendency would of course be much diminished, and indeed would not, I should hope, exist among those officers who were employed on military works and kept, as I propose, upon the strength of the divisions of the army ; but there will always remain a large number serving as civilians, and I think these gentlemen should understand that they were under any circumstances to be excused from their tour of military duty at Chatham ; they would forfeit all claim to employment in the field.

Lieutenant-Colonel D. Limond, R.E.

I have for many years held this opinion ; it is essential to efficiency. A full year after very five should be devoted to purely military study. I deprecate anything less ; regular duties leave but little, very often no time for study.

Lieutenant-Colonel W. H. Burton, R.E.

I think three months' course of field engineering at head-quarters of sappers in India every five years would be highly beneficial to officers of all ranks on the effective list.

I think that no royal engineer officer should need be withdrawn from taking his turn of garrison and court-martial duty with the officers of other corps ; it is very desirable indeed to secure our efficiency in

war, that we be associated as much as possible with the officers of all arms in peace. For the twelve years during which I was on the Imperial establishment, I was so without hindrance to my duties as a royal engineer officer.

Captain J. Dundas, R.E.

Certainly; this seems most desirable.

Captain W. H. Pierson, R.E.

Every officer of royal engineers in civil employment should refresh his knowledge of drill, military law, and field works by a short course at certain intervals at Chatham. I doubt whether he would find much to learn at Roorkee, unless officers of considerable standing and attainments be appointed instructors there, as recommended in my reply to question No. 11.

But as regards officers on military works, their military knowledge should never be allowed to rust, and no special arrangements should be required to re-polish it. I would make every garrison engineer and his subaltern in a station liable to military duty, such as attendance at brigade parades, &c., court-martial as in England. And there could be no better instruction for them in field works than having to instruct the troops, as proposed in my answer to question No. 61 (b).

Captain H. H. Cole, R.E., Executive Engineer.

I think it essential to the efficiency of officers of the corps of royal engineers that a course of military duty should be absolutely compulsory every five years, failing which officers should go on the permanent reserve list.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

I would permit every officer in British or Indian army to go through a course of military engineering at Chatham or at Roorkee. I went through this course at Chatham in 1873, lasting three months, and profited greatly by so doing. Time spent at Chatham should to the Indian officers count as service towards pension, if they obtained a certificate of having made good use of their time, not otherwise.

63. In war in India and beyond the frontier, what should be the system of constructing and working telegraph lines? As we have in India a very efficient Government Telegraph Department, should we not look to that department to construct or maintain the lines up to the advanced depôt or post of the main body, the sappers merely laying the field lines from the advanced depôt to the head-quarters of the general in command, &c.; in fact, where the force may be said to be in contact with the enemy? Should, as in other armies, the telegraph system from the base of operations be under the commanding engineer in general administration?

Major-General F. R. Maunsell, C.B., R.E.

I consider that in war in India the Government civil telegraph line should, as a rule, put up and maintain semi-permanent lines when they are required to cover any great length of country, but that in all cases there should be a military aerial line between the civil line and the head-quarters of the general in command.

The military line should be lighter, more easily transported and worked, more easily put up and taken down, and of less expensive material than the civil line, except a small portion of military cable for special occasions.

In my report on result of operations in Afghanistan and suggestions for improvement, letter No. 825 of 11th August last, to quarter-master-general, I take forty miles as a convenient length for a military unit; but once organized, it could easily be extended over any distance intervening to the civil field line office. This would generally be convenient, and the civil line replacing it as feasible.

In our late experience, as a matter of fact, this was done for forty miles, and we should have been without a telegraph for six weeks had we not put up a portable military aerial line: and again for thirty-five miles working for a fortnight, and passing five thousand messages.

In the case of an army marching a great distance without halting, it would hardly be feasible or necessary to keep up a line: in such case, I would move the military line with the army, ready to be run back to meet the advancing semi-permanent civil line.

I consider that the commanding engineer should exercise a control over the field telegraph system.

As an evidence that it is not always possible for the civil department to meet the requirements for field telegraphs, I note that in December last the 5th Company Sappers, now at Roorkee, on the Khojuk pass road, was required to send a detachment to put up the civil telegraph line from Quetta to Kandahar. Although the opening of the pass was so urgent that the lieutenant-general suspended the order pending a reference, it was found that the telegraph line could not be put up

without the sappers; they accordingly went on 28th December 1878, and are still on duty there under E. Pitman, Esq., Civil Telegraph Department, not being allowed to join their company on its return. Mr. Pitman informed the officer commanding the company that it was impossible for him to organize any system to effect his work without sappers.

Major-General A. Fraser, R.E.

For the construction and working of telegraph lines in connection with operations in the field, we should look to the Government Telegraph Department to construct and maintain the lines up to the advanced dépôt or post of the main body, but a certain number of sappers should be trained and employed in the telegraph department for detachment on this service in time of war. The telegraph system in advance of the base of operations should then be placed under the commanding or field engineer in general administration.

Colonel H. N. D. Prendergast, R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

In India, and beyond the frontier, in war, it is recommended that the Government Telegraph Department should construct and maintain the lines up to the point on the communications where there is danger from an enemy; where coolness and courage are required, soldiers should be employed. Military telegraphs within the tactical zone should be constructed and maintained by the commanding engineer. Those in rear should not be in his charge in any way. In Abyssinia the line was constructed by the engineers, and when completed was handed over to the quarter-master-general.

Colonel the Hon'ble C. J. Merri-man, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

I should be in favor of utilizing the Government Telegraph Department in India to the fullest extent practicable, even beyond the advanced depot. I can see no special merit in having the entire system from the base of operations under the commanding engineer.

Lieutenant-Colonel R. de Bourbol, R.E., Consulting Engineer to the Government of India for Guaranteed Railways, Lucknow, now on special duty in Biluchistan.

It would be an advantage to the public service if more royal engineers, officers and non-commissioned officers, and the reserve sappers under my proposed system were employed in the telegraph department.

In time of war these officers and soldiers might form a telegraph train and be sent by the department to the front to work under the orders of the general commanding the army through the commanding royal engineer.

The companies of sappers present in the field might help in any way thought advisable; but practically, the telegraph train, possessing in its field-park all the material necessary for constructing and working the telegraph, should undertake the whole work with the above assistance. In the Ashantee war the telegraph train was composed of officers and men of the royal engineers, who were drafted from the body of State telegraphists in England. During the last few years a certain portion of the telegraphs in England have been managed and worked efficiently and economically by the royal engineers.

A telegraph troop, consisting of 10 officers, 40 non-commissioned officers and 300 men, might be formed and drafted from the companies of sappers and miners as proposed for the railway corps.

The whole should be employed by the telegraph department in time of peace, with a reserve to fill up war casualties, &c.

Lieutenant-Colonel J. Hills, R.E., Commanding Bombay Sappers and Miners.

On this subject it is all the more difficult to give a decided opinion, from the fact that the telegraph department in India has always been so practical and efficient; on the other hand, it is equally clear and decided that all the European authorities are against the employment of civilians under fire or in places where they would be exposed to an attack. In India we have had several minor campaigns, but have not been fairly tried or received a check sufficient to bring forth prominently the continuous hardship and danger of such a life before the civilian element. Hence I am of opinion that if a scheme such as handing over the entire telegraphic charge of a small State railway to the military element, such as a company of sappers and miners, can be carried into practice for a time as an experiment without great expense, such might be attempted, in order that, should circumstances arise as to cause a failure of the civil element, a reserve of the military would be available.

Beyond this minor precautionary measure, unless it proved financially a success, I should accept in India the employment of the Government telegraphic department to construct and maintain all lines up to as advanced a post as possible. It must however be kept in mind that the Indian army may have to be sent to positions and places where the civil element may not be so advantageously employed; hence a small nucleus, capable of expansion, of the military element should be kept up undoubtedly, but only a small one. At the same time many of the posts in the Government civil department might be granted to the older sappers on their being pensioned or permitted to exchange the military for the civil branch.

It is only in India with its peculiar disregard to engineer officers and their branch of the service, and the want of experience and knowledge of the importance of engineering operations which practically, though not openly, affect the success of all military campaigns, that such a question (2nd clause of question) could be asked and a reply requested. All matters of engineering details, all telegraphs, even communications in railways of "ctappen," &c., should be directly under the control of the commanding engineer, who is the proper controller and director of all movements, and, in fact, the suggesting power. The slightest enquiry into the duties of the staff of any army would fully impress this on any military order. Unhappily, as I have before remarked, the duties of the commanding engineer officer has rarely been grasped by those in authority in India; in my experience his duties have been usurped and his authority curtailed by other members of the staff or command with results which were but little satisfactory to the progress of the army or to the thorough execution of the work. There has been scarcely a campaign of which I have heard the details or been present at, in which I could not, if need be, quote several forcible examples.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field
Force.

The Government telegraph department may well be entrusted with the construction and working of the line to the advanced dépôt, the sappers carrying on the communication to the front. Yes, I think the whole system from the base of operations should be under the control of the commanding royal engineer.

Lieutenant-Colonel D. Diamond,
R.E.

The existing arrangement works very well, and should not, I consider, be interfered with. So far as to satisfy himself as to the efficiency of the arrangements made.

Lieutenant-Colonel W. H.
Burton, R.E.

I think the telegraph duties sketched out in the question fairly represent what the royal engineer officers and sappers should be capable of performing during a campaign. To enable them to do this with efficiency, a province should be told off (as is the case in England, *viz.*, that all south of the Thames) in which the royal engineer officers and sappers should work and maintain the telegraphs in peace, the European non-commissioned officers being chiefly employed in the office work, the Native sappers in the out-door repairs, &c.; also that sappers should construct a portion of every new line of telegraph which has to be made in India.

(b) It should.

Captain J. Dandas, R.E.

The system described in this question seems undoubtedly the proper one.

Captain W. H. Pierson, R.E.

In replying to this question, I may mention that I have had some eight years' experience in erecting and working telegraph lines in Persia with the assistance of royal engineer non-commissioned officers and of civilian clerks. Skilled workmen are not necessary to put up a telegraph line, and the speed at which it can be done is entirely dependent upon the amount of ordinary labor, of carriage, and of material available. For working the line, well-trained men are required, and professional clerks are more valuable than the comparatively inexperienced military telegraphists. On the ground, therefore, both of speed and of efficiency in working, the duty of constructing and maintaining the lines up to the head-quarters of the general in command should, as far as possible, be entrusted to the telegraph department, with its exceptional facilities for obtaining stores, large numbers of workmen, and skilled operators. The sapper telegraph company, limited as it must necessarily be in numbers, will be most usefully employed in rapidly laying down light field lines in the advance, where from exposure to attack, &c., civilian workmen could not be called upon to undertake the work. The telegraph officer in charge of the main communications would naturally be under the orders of the general in command, and of the commanding engineer as representing him.

Captain H. H. Cole, R.E.,
Executive Engineer.

Yes, certainly.

There should be one company specially for telegraphs with each *corps d'armée*, and of course under the commanding engineer.

Captain W. T. Stuart, Inter-
preter and Quartermaster, Bengal
Sappers and Miners.

The reports of the general commanding the Peshawar Valley Field Force show that the field lines put up by the sappers worked well and went as fast as did the army. Nothing could have been better than the work of the telegraph company (the 6th of sappers). I refrain from offering an opinion on the merits of the civil department line beyond saying that the presence of civilians during the operations of war might hamper the general and his troops.

64. By what agency are the regulations relating to the interior economy of royal engineers and sappers and miners in India carried out ?

Major-General F. R. Maunsell,
C.B., R.E.

I do not think there is any urgency for royal engineer regulations. Each officer has to look after himself.

Major-General A. Fraser, R.E.

The regulations relating to the interior economy of the royal engineers and sappers and miners in India are carried out through the adjutant general's office. I would strongly recommend the appointment of a deputy adjutant-general (who should be an officer of royal engineers) for this purpose, and in whose office the records spoken of in answer to 59 might be fitly kept and cared for.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own" Sappers and Miners, Madras.

By the commandant, adjutant and quarter-master of the "Queen's Own" Sappers and Miners, and by the officers commanding companies; but royal engineers in the Public Works Department seem to be under no particular military control or discipline.

Colonel the Hon'ble C. J. Merriam, C.S.I., Acting Secretary to the Government of Bombay, Public Works Department.

In the Bombay presidency by the officer commanding sappers and miners.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

As regards the interior economy of the royal engineers and sappers and miners, all that can be said is that it is in a very unsatisfactory condition. The system will be explained by describing—

- 1st.—The pay duties of the corps.
- 2nd.—The arrangements for stores, &c.
- 3rd.—The location of the corps.

The pay duties are carried on in an irregular manner.

The adjutant and superintendent of instruction also performs the duties of paymaster to the whole corps assembled at head-quarters, with the exception of the 43rd company, royal engineers. The officer commanding 43rd company, like officers commanding royal engineer companies all over the world, is responsible for the whole of the pay duties of his company wherever stationed. Similarly, wherever any company is detached from head-quarters, as for instance at present the Aden company, the torpedo company, and the second and fifth companies on service (four out of five companies), the officer commanding the company becomes entirely responsible for all the pay duties and keeps the accounts quite separate for the time they are away, corresponding direct with the presidency paymaster; whenever the company returns to head-quarters, the company accounts are absorbed into those of the head-quarter ones.

This system is unquestionably objectionable.

The adjutant and superintendent of instruction has already far more work than he can possibly do. To give him all the extra work of all the companies at head-quarters is only adding unnecessarily to his work, and the system by which the company officers have alternately at one time absolutely nothing whatever to do with their company accounts, while at head-quarters, where they have plenty of time to learn and supervise the system of accounts, and at another absolutely everything, being wholly and solely responsible while on detached duty or on service is manifestly wrong, for there, though his attention is called to a thousand other matters, he finds himself suddenly burdened with complicated accounts concerning which he knows nothing, and never having had any practice is utterly at sea. The result, moreover, is that by the time the company returns to head-quarters the accounts are in a muddle, and the time and labor of the adjutant wasted in unravelling the complications and getting passed the objectionable statements. There can be no possible reason, except an idea of saving the control office a little labor (that it does so practically, I do not believe), why the company officers, as is the case in all royal engineer companies at home and abroad, and as is also the case with all detached companies in India, should not be held always responsible and correspond direct with the presidency or other paymaster whether at head-quarters or detached. It is one of those incomprehensible mysteries difficult to solve and most objectionable in practice. A second source of great inconvenience is owing to the system of paying the European non-commissioned officers weekly and the Natives monthly; by this an extra set of accounts has to be kept up between the officer commanding 43rd company and the adjutant and paymaster, and these European non-commissioned officers, in place of being paid by their own company officers, are paid by an officer with whom they really have no connection at all. The accounts of a company are in India most complicated, and no one but he who has had for some months actual command of a detached company can thoroughly understand the complicated and ever-changing pay regulations.

The remedy proposed for the present unsatisfactory state of affairs is—

First, to organize the companies on exactly the same footing as the royal engineer companies are organized, viz., each company to be independent as regards its accounts wherever it may be, and correspond direct with the presidency paymaster.

The pay of the head-quarters staff to be drawn in a special pay list by the adjutant in correspondence with the presidency paymaster. Head-quarter detail, such as hospital establishment, &c., to be attached to some of the companies for pay. I am aware that the pay department object in some ways to the arrangement I now propose, but on what grounds I am unable to ascertain; but I feel confident that any little (if any) extra work thrown upon that department will be more than compensated for by the greater correctness and despatch with which the pay accounts will be sent in from the companies.

* Not printed.

A set of proposed company muster rolls, general state, &c., is forwarded herewith marked M. R.*

As regards the second item, stores, the arrangements are equally unsatisfactory.

The quarter-master, who is also superintendent of park and train and interpreter, is under the present system responsible for the company equipment, even though the companies are scattered about all over the country.

Instead of having, as is done in the royal engineer companies, the officer commanding each company responsible for his arms and equipment, everything is put on the quartermaster, who thus becomes responsible for things he has never seen. The Aden company, for instance, draws its stores from the arsenal, but accounts for them to the quartermaster of the sappers and miners.

Another unsatisfactory arrangement is that the arms of the corps, instead of being numbered companies are numbered from one upwards all through the corps, and in consequence great confusion arises; for instance, when the two companies were sent to Malta and arrived there, their arms were exchanged for Martini-Henry rifles, which again on the return of these companies were sent into store and snider carbines issued.

The remedy for all this is to acknowledge what is accepted in all other armies the company of the sappers and miners as the unit and not the battalion or corps, and to make the officer commanding the company responsible for his arms, equipments, and everything connected with his company; and until this is freely acted upon, there will never be a thoroughly efficient service in India.

The third item, location. Some of the 34th company, Royal Engineers, are located about two miles from their work in New Jhansie; they have thus a long trot and tedious walk from their work at the most trying time of the day, 2 o'clock P.M. This is necessitated by the non-building on account of financial depression of the quarters necessary for these men at New Jhansie, where the remainder of the Europeans are located.

There is no European hospital at New Jhansie, and consequently the men have when sick to go to the royal artillery hospital at Kirkee.

There are no sheds for the corps or even company stores, no offices, nor proper accommodation for the adjutant and quartermaster.

Lieutenant-Colonel W. Hiehes,
Commanding Royal Engineers,
Southern Afghanistan Field
Force.

My replies to questions 58 and 59 contain all that I have to say upon this subject.

Lieutenant-Colonel W. H. Barton, R.E.

I have heard by the adjutant-general as regards the royal engineers; but I think more attention is required for the corps as a whole and for every individual officer. The adjutant-general in India is not so thoroughly acquainted with each royal engineer officer in India as is the deputy adjutant general, royal engineer, in London.

The commandant of the sappers and miners would be the chief agent in putting into force regulations regarding the sappers.

Captain J. Dundas, R.E.

Please see the answers to 58 and 59. There is at present a very imperfect agency and a want of interior economy. The appointment of a deputy adjutant-general for royal engineers would remedy this.

Captain H. H. Cole, R.E., Executive Engineer.

Through the adjutant general and the public works department.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

I do not feel competent to give an answer to this beyond saying that a company of sappers is well cared for; discipline is never allowed to relax; the records of pay, clothing, and stores are thoroughly kept, as also the rolls of the men. I commanded a sapper company for about eight years at Delhi, Agra, famine and fort works, in road-making in the Mohun Pass, Mussoorie, Chakrata, and lately in the Khyber Pass. I could make, the men do anything, for I understand them and also their work; and if any one thinks that Natives are not observant and rather stupid, it is quite a mistake. Native soldiers generally, and sappers not less so, are very intelligent, and will never fail to respond to the call of duty if they be properly handled and fairly treated, whether it be at marching, working, or fighting.

65. In a military division or district, who is the officer (below the general) responsible for the care and preservation of defences?

Lieutenant-General C. W. Hutchinson, R.E., Inspector-General of Military Works.

No special rules for the maintenance and repairs of forts as distinct from those for other military buildings are in force; these works form part of the charge of the executive engineer in whose division they are situated.

But new rules in regard to the periodical inspection of forts, and the correction and custody of plans have lately been drafted, and are, it is believed, about to be issued, of which the main features will be that the general commanding the division in which any fort is situated, and under him the officer commanding the district, station, or fort, as he may direct, will be responsible for the condition of the fort. The senior royal artillery officer and the commanding royal engineer of the

division will each inspect the fort once in every year, and report to the general, the former on the armament, the latter on the defences and buildings; and these officers will subsequently accompany the general on his annual inspection. The general's annual report will be submitted to the quarter-master-general and to the Commander-in-Chief for orders.

A detailed plan, with sections, constantly corrected up to date, will be kept in the office of the executive engineer in whose division the fort is located.

Major-General F. R. Maunsell,
C.B., R.E.

Major-General A. Fraser, R.E.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

Colonel the Hon'ble C. J. Mer-
rison, C.S.I., Acting Secretary to
the Government of Bombay, Pub-
lic Works Department.

Lieutenant-Colonel R. de Bour-
bel, R.E., Consulting Engineer
to the Government of India for
Guaranteed Railways at Lucknow,
now on special duty in Biluchis-
tan.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sap-
pers and Miners.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field
Force.

Lieutenant-Colonel D. Diamond,
R.E.

Lieutenant-Colonel W. H. Bur-
ton, R.E.

Captain J. Dundas, R.E.

Captain W. H. Pierson, R.E.

Captain H. H. Cole, R.E., Exe-
cutive Engineer.

Captain W. T. Stuart, Inter-
preter and Quartermaster, Bengal
Sappers and Miners.

I do not think that any system exists, or ever has existed, connecting the department in charge of works of any sort with the military authority on the spot. The departmental officer, military public works, I presume, is responsible for all military works.

The executive engineer is the officer who is primarily responsible for the care and preservation of the defences.

The superintending engineer, Public Works Department, an officer directly under the orders of Government in a civil department.

The executive engineer who is an officer of the Public Works Department under Government.

The superior officer of the Public Works Department in charge of the military works. But this officer has no power to spend money on the maintenance of defences, unless money is previously granted for the purpose by Government.

There is no officer in a military capacity under the general (unless the executive engineer, who is often a civilian) who is responsible in a military sense for the care and preservation of defences and fortifications. In purely a civil sense the executive engineer, if he thought necessary, would budget for the repairs of any defences under his charge; this would be sanctioned by the superintending engineer, and the work executed without any particular reference to the military authorities.

The general has to communicate with an officer of the public works department, often a civil engineer.

The superintending engineer of the command has to send in an annual report on the state of all forts within the limits of the same. He is responsible they are kept in repair, but not for defects in design or principle.

I do not know; but no officer can be said to be so responsible if the Government allows no regular annual sum for maintenance of existing works.

The senior royal engineer officer in a district should be charged with the duty of submitting, in conjunction with the senior royal artillery officer in that district, an annual statement of the fortification requirements of his district, as well as with the duty of executing such works of maintenance, &c.

The officer commanding the fort is responsible to the general. But the executive engineer in charge is distinctly responsible to the Government in the matter. His responsibility in respect to all works and buildings in his charge has always been generally declared (see, for example, Public Works Code, edition 1870, Chapter III, iii, 39), and in respect to forts was specially enforced by an order in the Military Department, No. 110 of 8th January 1877, which called for a yearly report on their condition.

Draft rules for the annual inspection of forts, which will place this matter on a very clear footing, are now under consideration of Government in the Military Department.

Under the present system, the executive engineer in charge, who may be a civilian or a Native, is the officer immediately responsible for the care and preservation of defences.

The chief engineer is responsible for all buildings in the province, and the executive engineer takes the orders of the general; but no special attention is directed by executive engineers in military works to the condition of defences, excepting in the cases of such forts as Fort William, Allahabad, Gwalior, Agra, Delhi, Lahore, &c.

I am not in position to say. There are, I believe, *garrison engineers* at Fort William and Allahabad. I suspect that the defences are in most other places left to themselves. At Delhi some years ago when I was serving there, the garrison engineer was a civilian.

66. Please give your views as to the system under which purely military works (barracks and defences), instruction to the army in military engineering, telegraphy, signalling, &c., should be conducted, it being understood that it is impossible to keep up an excessive staff of engineer officers employed on minor duties, while at the same time it is necessary to provide for the requirements of war.

Lieutenant-General C. W. Hutchinson, R.E., Inspector-General of Military Works.

In the answers given to many of the preceding questions, my views in regard to several points connected with the construction and maintenance of barracks, fortifications, military roads, and other works affecting the wants of the troops in cantonments, have been expressed: but in replying to the present question, I will recapitulate and amplify these views.

I would premise by explaining that in the following paragraphs I urge no radical change in the system now in force; nor indeed do I advance views entirely new or original: the scheme briefly sketched below is only the natural outcome of the measures adopted in initiating the new system of military works in 1871, and since continued in organizing the new branch then created; and is indeed in its main features the ideal towards which those measures were always intentionally directed.

It will be observed that what I deprecate is any fundamental change of system, or any retrograde movement towards lessening the military character of the agency for carrying out public works connected with the army; and that what I recommend is an advance along the lines hitherto followed in developing the military works branch.

I. The duty of designing, constructing and maintaining all barrack buildings, all fortifications, military lines of communications, cantonment water-works, barrack furniture, and other public works connected with the accommodation, &c., of troops to be entrusted to a military works branch of the public works department.

II. This branch being concerned only with the requirements of the army, to be distinct from the other civil branches of the public works department engaged on railways, canals, civil buildings and works of a provincial and local character; and although a branch of the public works department, to carry on its duties under the orders of the Commander-in-Chief and the military department.

III. Its members to be military men, as far as possible belonging to the corps of royal engineers or of sappers and miners: all the members of the superior (engineer) grades to be royal engineer officers. One important object of this restriction being to supply a more extended field for the employment of officers and men of the royal engineer corps in India under a proper military organization.

IV. The relative rank, pay, leave rules, &c., of the members of the military works branch to be exactly similar to those obtaining in other branches of the public works department; but in view to maintaining its distinct military character, the names of the several grades to be as follows:—

Commanding royal engineer, corresponding to superintending engineer.

Garrison engineer, corresponding to executive engineer.

Assistant garrison engineer, corresponding to assistant engineer.

The head of the branch to be designated, as at present, "Inspector-General of Military Works."

The duties and location of these officers will be noted below.

V. The budget allotment assigned by the Supreme Government for military works during the year to be placed at the disposal of the Commander-in-Chief to be expended on *bona fide* military works, within the sanctioned scale of accommodation for troops, and on buildings and works on approved standard designs, it being understood that the budget once framed and approved by the Government in the military department cannot be departed from without Government sanction, except within the limits permitted by the existing department public works rules in regard to "reappropriations."

VI. The distribution of this allotment to be effected under the arrangements now in force, except that the communication between the inspector-general of military works and the Commander-in-Chief and his other superior staff officers should be more direct in regard to the criticizing of the local cantonment committee reports, the selection of the works for insertion in the budget, and the proportionate allotment of funds.

VII. The budget once framed and approved by the Commander-in-Chief and by Government, the actual execution of the works to be carried out, as at present, under the direction of the inspector-general and in accordance with the usual department public works rules.

VIII. The organization of the staff of the military branch (being as above noted of a military character) to be more assimilated to that of the somewhat similar royal engineer department in England.

In England the head of the corps and of the engineer department is an officer of royal engineers designated "Inspector-General of Fortifications and Director of Works."

He is assisted at head-quarters by ten officers, *viz.*—

- (1) A deputy adjutant-general in charge of the military discipline and duties of all royal engineer officers and men in the country.
- (2) A deputy assistant adjutant-general.
- (3) A deputy director of works for fortifications.
- (4) Assistant do. do.
- (5) Deputy director of works for barracks.
- (6) Assistant do. do.
- (7) do. do. do.
- (8) Inspector of sub-marine mining defences.
- (9) Assistant do. do.
- (10) Aide-de-camp to inspector general.

IX. As my proposals are intended not merely to avoid any increase of establishments over those hitherto prevailing, but under present financial difficulties to effect a reduction to the limits recently

imposed, the head-quarters staff for Indian military works, to correspond with that above quoted, would be very much smaller and would stand as follows:—

The Inspector-General of Military Works to have the direction of both barracks and fortifications, and to be the recognized military head of the corps of royal engineers in the Bengal Presidency. To be aided at head-quarters by one of the authorized superintending engineers of the military works branch who should combine the duties of—

1. (a) *Deputy Adjutant General* for the charge of all questions of establishment, promotion, military and departmental, military discipline, and personal questions affecting officers and men of royal engineers in India.

(b) And those of *Deputy Director of Fortifications*, having charge of all questions relating to existing or proposed fortified posts in India, discharging the duties now exercised by the vice-president of the defence committee.

2. *Assistant Director of Fortifications*, exercising the duties of the present secretary of the defence committee, and giving help in both the above-mentioned branches of work.

3 & 4. *Two Assistant Directors for Barracks* and acting as general assistants to the inspector-general of military works.

All the appointments above detailed (excepting only that of deputy adjutant-general of royal engineers) are in existence, though under different designations, and in some instances on a somewhat different footing; but the creation of these appointments involves no excess either in the number or the salaries of officers as provided in the reduced scales of establishment.

X. On the home establishments the officers (colonels and lieutenant-colonels) holding appointments corresponding to the superintending engineers of the military works branch are designated commanding royal engineers. The number of such charges in the United Kingdom is sixteen. The most complete arrangement, theoretically, would be to attach a commanding royal engineer to the staff of every general commanding a division or a district, and to make his charge over barracks, fortifications, &c., coterminous with the general's division or district; but at present the reduced scale of Indian public works establishments will allow of only four for the stations under charge of the inspector-general of military works.

These officers it is proposed to designate commanding royal engineers. Each commanding royal engineer will perform the duties of a public works department superintending engineer in regard to all military public works in his command; he will be a member of the staff of the general of the division to which he is attached, and will be his professional (engineer) adviser. He will command all the royal engineer officers and men in the division, and be responsible for their discipline, their posting, their employment, and their proper instruction; he will inspect all military buildings and forts within the division, acquire a knowledge of the topography and resources of the country within those limits, and be responsible that the plans of cantonments, forts, &c., are periodically corrected and are in safe custody.

XI. The actual execution of works, the construction of barracks, military roads, fortified posts, cantonment water-supply channels, and other military works, and the responsibility for their proper maintenance will be intrusted to royal engineer officers having the grade and pay of executive engineers of the public works department. These officers to have as a distinctive appellation the title of garrison engineers. Their duties (as well as their emoluments) will be as now those prescribed for executive engineers of the Public Works Departments, but they will belong also to the military staff of the cantonment in which their duties lie, and will be the professional (military engineer) advisers of the officer commanding in their stations or districts.

They will be under the command of the commanding royal engineer of the division, and will be assisted by subalterns of the royal engineers, designated assistant garrison engineers, and having the rank and pay of assistant engineers in the public works department.

XII. Thus the complete military works branch establishment of the Bengal presidency will consist, in its superior grades, of an inspector-general with his own head-quarters staff of commanding royal engineers on the staff of generals commanding divisions, of garrison engineers in charge of cantonments, forts, &c., and of assistant garrison engineers in charge of minor stations, parts of cantonments or special works under the control of the garrison engineers; all these being officers of royal engineers, and all being attached to the military staff of the division, districts, stations or forts within which they are employed; all being bound to keep up their knowledge of drill and of military science and matters generally.

XIII. To this military works branch all officers of royal engineers on first arriving in India will be posted, being placed under the orders of a commanding royal engineer at the head-quarters of a division, to learn the native languages, the procedure of the department, and the nature of the duties of a royal engineer officer in India. Until an officer so posted to the military works branch is reported competent for regimental or departmental duty, he will draw only regimental pay. When he has passed the required tests, he can elect to join the corps of sappers and miners, the military works or some other branch of the public works or other department, as vacancies may arise or employment can be found for him.

XIV. The upper subordinate establishment of the military works branch to be composed, as far as possible, of non-commissioned officers and privates of royal engineers or of other regiments, after a course of instruction in the Roorkee College.

Their position, pay, and duties to be generally as prescribed for upper subordinates of the public works department.

XV. The lower subordinate establishment of the military works branch cannot have so distinctly a military character as the engineer or upper subordinate establishments. But, as far as is practicable, Native soldiers who have passed through the Roorkee College course as military sub-overseers will be employed. Should also the reserve system be adopted for the Native army, some of the sapper reserve men who were originally recruited from the skilled artisan classes, and who possessed the necessary qualifications for employment as sub-overseers, sub-surveyors, or head artificers, could be profitably utilized in such capacities in the lower subordinate establishments of the military works branch.

XVI. It will be observed that in a preceding paragraph (No. IX, 1 & IX 2) it is proposed that the duty of preparing projects for new fortifications and for remodelling existing forts, of inspecting such works, and in fine of considering all questions connected with their defences and armaments should be entrusted to two officers designated a deputy director and assistant director of fortifications, at the head-quarters office and under the orders of the inspector-general of military works. Such works manifestly form a portion of the charge of the inspector-general precisely as do barracks, water-supply schemes, military roads, &c. But having regard to the changes that have lately taken place in the sciences of fortification and gunnery, and the advances that these sciences are now making, this particular department of military works requires a special agency; and consequently it is proposed to set apart a portion of the establishment under the orders of the inspector-general expressly to this line of duty; and the smallest possible agency is the one proposed: an agency which could be at need, and at the discretion of the inspector-general of military works, supplemented by the addition of one, two or more royal engineer subaltern officers to assist in drawing the designs.

At present the vice-president and the secretary of the defence committee discharge the duties assigned to the deputy and assistant director of works for fortifications; and if, under the pressure of financial difficulties, that committee, as at present constituted, should cease to exist, the records plans, models, &c., collected by the committee could be kept intact, and the work, as far as possible, continued in the head-quarters office of the inspector-general.

The advantages enjoyed by the existing committee of consultations on defence schemes by a mixed body of officers, naval, royal artillery, royal engineers, ordnance, quarter-master general's department, &c., need not be lost under the new arrangement, as an *ex-officio* committee costing nothing to Government, and meeting only on rare occasions, and when the members were in the ordinary course of duty present at head-quarters could be formed for the preliminary consideration of important projects, or for the final criticism of these projects when elaborated in the inspector-general's office. Such an *ex-officio* committee would consist of the Commander-in-Chief as President, with the inspectors-general of military works, of ordnance, and of artillery, the adjutant-general, quarter-master general, and consulting naval officer to Government as members, the cases being prepared and laid before them by the deputy and assistant directors of fortification.

XVII. The preceding paragraphs explain my views as to the system under which purely military works, barracks, and defences should be conducted; and on these subjects, with which my official duties are directly and intimately connected, I have felt warranted in expressing my views confidently and at some length.

XVIII. In regard however to the question of instruction of the army in military engineering, telegraphy, and signalling, as this work does not appear to me to fall within the province of the military works branch, I do not feel justified in offering a decided opinion.

Judging, however, from the analogy of English practice, this duty would seem to me to pertain to the establishment at the head-quarters of the corps of sappers and miners, where instruction in these subjects forms a part of the regular training of the men of the corps, and where officers are specially appointed to the duty of instructors in these branches of engineering.

At Roorkee facilities exist for the execution of sapping and mining, bridge-making and pontooning, telegraphy and signalling in the presence of the necessary plant and material, of officers specially qualified and detailed for the duty of instructing, and in the presence of a large body of soldiers trained to these particular classes of work.

As it has been the custom at Chatham to send officers and detachments from line regiments to share in field work training, and to take part in siege operations, so at Roorkee officers and detachments from regiments in cantonments at no great distance from that station could be sent into camp there during the cold weather to join the sappers in all descriptions of field engineering operations, pontooning, signalling, &c., and on return to their cantonments the officers and non-commissioned officers should be able to take the place of instructors to the rest of the men of their own regiments. In regard to signalling officers, classes could also be formed at some hill station during the hot season, as has been done on former occasions, to learn signalling under the teaching of a qualified officer of royal engineers detailed for this duty from the head-quarters of the corps of sappers and miners.

Major-General F. R. Maunsell,
C.B., R.E.

This embraces rather a wide scope. I think that barracks should not be constructed without some reference to military position, but I believe that the details of construction, repairs, &c., is well and carefully arranged for, and carried out by the public works department; and I hardly think myself competent to attempt (without time to consider the bearings of the case) to sketch out any new system as better:

In the matter of instruction to the army in military engineering, telegraphy, signalling, &c., I have somewhat more experience.

In military engineering there is absolutely no instruction: *vide* answer to question G1. I would make one business of this.

In telegraphy and signalling some instruction does go on, but not so systematically as it should for military efficiency. For the training in telegraphy, I think that there should be a minimum number of men kept up to the mark, also a minimum employed in civil offices, the others being required to keep up their practice; also that certificates should be given, and the men not employed, but who have certificates, should be required to test their fitness and to practice. Two classes of certificates should be given—one for mere signalling, and the other for those fit to have charge of an office. I submitted this to the director general of civil telegraphs about August last year, but he did not agree with me. I consider the breakdown as to number of men wanting during the campaign was due to want of system in this matter. For army signalling the existing arrangements admit of some improvement in details. I consider that a very material addition of system and time for training alone

will render this department thoroughly efficient. No men are of use in a telegraph office, civil or military, without a thorough training, and when deficiency exists in this in any men who have to be employed, they have then and there to be ground down to it, being useless for some time. The same for visual or army signalling. Some instances occur of regiments working very well; but it must always be very well, *considering* these men want the training necessary to efficiency, and time, as in telegraphy, is spent in training them at the very time when it can least be spared.

The practical Americans appreciating this maintain corps and utilize it to keep up communication for certain departments of State business; and this constant training keeps them up to the mark. I do not suggest the formation of such a corps, but I think that a responsible officer should exercise a personal inspection of the system, and that there should be a system of training the men of each division together. Also fixed rules for work in the field, similar to those for military field telegraph offices; indeed, I think the system of visual should be intimately connected with the field telegraph.

Major-General A. Fraser, R.E.

Purely military works, such as barracks, defences, &c., should be carried out by the military works branch of the public works department; but this branch should be reorganized. It should be a military service composed entirely of military engineers; the subordinates with it to be all soldiers, trained at the military engineering school. The officers should be classed as commanding engineers, engineers, and assistant engineers, with suitable staff salaries, working up to an inspector-general in the military department. The pay should be regulated by what they would get in the field, and should have no reference to the amounts hitherto paid in the public works department. It should be a purely military service, involving no addition or subtraction of pay while on field service. Instruction to the army in military engineering, telegraphy, signalling, &c., should be conducted by the school of military engineering established at the sapper headquarters.

Additional remarks by MAJOR-GENERAL A. FRASER, R.E.

The remarks with reference to questions 35 to 44 inclusive apply to a greater or less extent to the whole of the army. It may not be advisable, even with our improved communications and appliances, to reduce the total of European troops in the employ of the Government of India; but I imagine the organization of the Indian army as regards its British-born troops must always follow that of the English army; and a vast saving of expense and increase of efficiency might be obtained by maintaining our reserves of European troops in England instead of in India. We have now rather over 64,000 English troops in this country; and taking the strength in round numbers at 60,000, I would maintain only 40,000 in India. Of these, 20,000 might be located in the hills in the summer; and in the winter parties of these might be marched to the plains for camps of exercise or practice in field evolutions, carrying out relief as between the hills and the plains at the same time, and 20,000 should be distributed at the various centres and strategic points over the country. For the remaining 20,000 I would simply increase the standing army in England by that number of men, and station them at home; their cost, at English rates, to be defrayed by the Indian Government, on the understanding that their services should be at the entire disposal of this Government, whenever they were required. As artillery and cavalry cannot be quartered in the hills, I would give a larger proportion of these arms at home than of infantry. The relief of the Indian service would rather depend on the terms of service of the troops; but my own view is that the service should involve five years in India in the hills and five years in the plains, with an inter-relief every second or third year.

On the occurrence of political disturbance, whether in Europe or in Asia, this body of 20,000 men could within a week or two be landed in Egypt or Cyprus, where they would guard our communications and be in readiness for any emergency until the British Government should be in a position to replace them by other troops, when they would, if required, move on to India. Owing to the great and increasing extent of our railway communications, and our consequent power of rapid concentration, we can do more now with one regiment than could be done in the old days with three; and with 20,000 men in the plains we could, if the cantonments were judiciously selected, with reference to our sea base, our internal communications, and our frontier requirements, maintain a firm grasp on the country; while we should have 20,000 men in the hills, who would be quite free to move at any time on any threatened point, and the 20,000 in England could be moved either to Kurrachee, Bombay, Madras, Calcutta, or Rangoon to strengthen our base.

The gain by this arrangement in money, though very large, would not be the only advantage. Improvement in the health of the troops and diminished mortality would be a result to be confidently looked for; and the advantage of having a large body of men ready at a moment's notice to occupy Egypt would, while in no way weakening our position in Asia, immensely strengthen it with reference to European complications. The improvements in communications between England and India and the magnificent sea transport service owned by this Government, have now rendered this plan perfectly feasible; and I have no hesitation in advocating it, more especially as it is quite as important to be certain of security to our communication with England as it is to hold our frontier intact, or secure ourselves from internal rebellion.

For the Native army I would introduce the reserve system in the same way that I have already recommended for the sappers; but the active reserve of the regular army should be employed on the ordinary police duties of the country, the second or veteran reserve taking their place when the active reserve is called out for service or required for training. But the Native army cannot be reduced below the numbers required for protection of our frontier, and to carry on the regular guard and escort duties required in time of peace, without undue strain on the men. It is a waste of power, life, and money to

employ European soldiers on these latter duties when Natives can be got, and the strength of the portion of the Native army to be present at all times with the colors should be fixed with reference to these requirements.

I must apologize for these sketchy answers to the important questions which have been put to me by the Army Organization Commission; but I only received the paper of questions on the 28th August, and my time is too much occupied to enable me to go into these matters so fully as I could have wished before the 3rd September. At the same time the above modes of reducing the cost of our army have long been in my mind, while I have considered for the last ten years that, with our arsenals and strategical centres in the plains secure, and with bodies of Europeans in healthy condition in the hills and at home, movable at pleasure to any threatened points, we should be stronger than we should be with a larger body of troops, distributed as at present in open cantonments not protected with forts all over the country in comparatively unhealthy localities.

Moreover, I am clearly of opinion that any large disruption of present organization will be, as it is apparently proving to be at home, very uncertain in its results; and though it may be considered by some that it is not desirable to have the police composed of the same body as the troops, yet I think it possible that the police would become a safer body than they are now if they had this reserved connection with the army, with prospects of ease in the second reserve, and of pension; while the economy both in the military and civil departments will be manifest. The Government would not, moreover, have to fear an idle body in almost the prime of life loafing about the bazaars with little pay and nothing to do but to seek mischief in concert with neighbouring regiments. The civil department should be bound to take a military reserve man as a policeman, paying the difference between the army retaining-fee and the ordinary pay of the police of the district, while the reserve soldier should be bound to serve in the police if required as a condition of his enlistment. This system might be open to the objection that in case of hostilities the first reserve men might be called out for active service at the time when police might be more than ever necessary, while the second reserve would be less efficient than those called to the front; but it would be probable in such a case that only a small part of the country would be affected, and active employment for the reserves seems to me safer than an idle body of men.

Finally, I would add that in suggesting the proportion of one-third of the British infantry in the hills, one-third in the plains, and one-third at home, I only put down what I think on imperfect data would be about proper. But there is no reason why the troops at home should not be reduced to one-sixth with the colors and one-sixth in reserve, provided the one-sixth, or say 10,000 men, would be sufficient for purposes of relief in time of peace.

Colonel H. N. D. Prendergast,
R.E., Commandant "Queen's Own"
Sappers and Miners, Madras.

Should be conducted by engineer officers. They should not be called on to repair barracks; but fortifications should be touched by no one else.

An engineer officer of rank of brigadier-general should be appointed as inspector of instruction in military engineering; and he should regulate the instruction of troops in military engineering throughout the country. But officers commanding regiments, assisted when convenient by garrison instructors and engineer officers, should instruct their own men under the guidance and inspection of the inspector-general.

The inspector-general should be an officer in the confidence of the Commander-in-Chief, and should be possessed of tact and common sense. The course of engineering should vary at different stations; the conditions being very different at Ali Musjid from those at Thayetmyo, for instance.

I would advocate central schools of telegraphy and military signalling. The school for military signalling at Bangalore is an excellent model. It is managed by an officer of the Madras infantry of exceptional merit (Major Begbie), who has devoted time and talent to the improvement of the system and instruments. Consequently the system and instruments used at Bangalore in 1873 are being gradually introduced into the system adopted at the Horse Guards. I would advocate a similar central school of telegraphy under another officer at Bangalore for the Madras-presidency, at which officers and men could be taught the construction of telegraph lines and the practice of telegraphy. Passed signallers could be kept in practice by short lines at military cantonments; for instance, to connect the fractions of Secunderabad, the head-quarters of regiments at Madras, the Mount, Poonamallee, and Palaveram. Soldier-signallers might be employed on State railways. The inspector-general might report on the centres of instruction in telegraphy and army-signalling amongst other duties, and, if necessary, on the classes of garrison instruction and fortifications.

Colonel the Hon'ble C. J. Merri-
man, C.S.I., Acting Secretary to
the Government of Bombay, Pub-
lic Works Department.

Barracks and defences should, in my opinion, be conducted as at present by officers of the public works department under Government; in the case of defences, special military engineers being selected for the duty. I understand that instruction to the army in telegraphy and signalling is now imparted by an engineer officer specially appointed for the purpose; and I would advocate the appointment of a special engineer officer as instructor of field-works under the officer commanding the sappers and miners.

Lieutenant-Colonel R. deBour-
bol, R.E., Consulting Engineer to
the Government of India for Guar-
anteed Railways at Lucknow,
now on special duty in Beluchis-
tan.

The existing system in India under which royal engineer officers and non-commissioned officers are employed on public works generally in time of peace would provide an efficient means of imparting practical instruction to the army in the construction of barracks, defences, hutting troops, opening out roads, buildings, bridges, surveying, &c., &c., if working parties of officers and soldiers were habitually detailed for this purpose in every military cantonment. To employ royal engineers in trying to instil theoretical instruction into the ordinary soldier would be a waste of time and money. Even good men so taught would find themselves, when in the field, at a loss how to put into practice what they

had learnt in theory. Of the two methods—practical or theoretical instruction—the former is undoubtedly the most economical to the State, as employing the minimum number of officers requisite, making use of their services to the utmost, and at the same time, besides rendering the men practical workers, utilizing their labor on the public service. The more practical officers and men can become in time of peace, the more efficient and useful will they be found in time of war; while the royal engineer, in exercising the civil side of his profession during peace, himself improves in practical knowledge, and gains an aptitude and readiness in organizing large bodies of laborers, collecting materials, and executing works on a large scale which can be turned to good account when required in time of war. I have heard it said that officers and men so trained may become too independent and addicted to criticize the orders of a military superior. As a rule, it will be found that, whereas an ignorant man will obey orders mechanically and without caring to reason on its use, the educated man will equally obey orders from a strong sense of his military duty, and at the same time does so intelligently and with some appreciation of its purport. He takes a pride in his military profession, and knows well the fundamental rule of obedience to orders.

Of course, if a military superior should in any technical matter give orders or act on his own judgment without previously consulting others possessing special knowledge, mistakes may sometimes occur, and inconvenience of the kind objected to may arise. But this will rarely happen. To give up the practical training and improvement of officers and soldiers for the sake of maintaining a blind obedience to orders would be a very narrow view of the subject.

Lieutenant-Colonel A. M. Lang,
R.E.

Military public works (*e.g.*, barrack building, fortifications, military roads, drainage, and water-supply of cantonments, and supply of barrack furniture) should be executed, as now, by a special branch of the public works department termed a "military works branch."

The following changes, however, should be introduced:—

This special branch, though remaining an integral part of the public works department, subject to the same rules as regards procedure, general promotion, pay, &c. (so that interchanges between it and other branches of the department public works would be feasible), should be composed almost entirely of military men (a few civilians for special duties, which would not bring them into contact with the troops being retained if thought desirable). It should be attached to the military department of Government, as its duties pertain almost exclusively to the army and its requirements.

Its organization should be more military than at present, its members forming part of the military staff of divisions and cantonments.

Its head would be the inspector-general of military works, who would be a member of the staff of the Commander-in-Chief and his adviser in all matters concerned with accommodation for troops, fortifications, &c.

As a head-quarters staff for the inspector-general, would be officers discharging the duties of deputy and assistant directors of fortifications, deputy and assistant directors for barracks, deputy and assistant adjutant-general, and personal assistants or aides-de-camp.

In England the inspector-general is aided by ten officers in position corresponding to those above noted.

It would be possible with the reduced scale of public works department establishments in India to have the following head-quarters staff:—

- (1) Deputy director of fortifications and deputy adjutant-general, royal engineers.
- (2) Assistant deputy director of fortifications, and assistant deputy adjutant-general, royal engineers.
- (3) Assistant directors for barracks.
- (4) Personal assistant to inspector-general.

This staff would entail no increase on the present (reduced) scale of establishment.

The control of all military works as above defined in the several military divisions would be vested in commanding royal engineers (at present styled superintending engineers).

There should be a commanding royal engineer on the staff of every general commanding a division or district. But the reduced scale will not allow of this arrangement in its entirety; and in some cases the charge of commanding royal engineers will extend over the commands of two generals.

The commanding royal engineer will discharge as at present all the duties of a department public works superintending engineer. He will be a member of the general's staff, and be his adviser in matters of military engineering. He will command all royal engineer officers and men in his command; arrange for the employment and instruction of royal engineer subalterns posted to his command on arrival in India. He will be specially responsible for the defences of all forts in his command, and for the custody and correctness of the plans of these forts. He will keep up his knowledge of drill and military matters generally by occasional attendance at parades and camps of exercise.

Garrison engineers.—The actual execution of all military works will be in the charge of royal engineer officers of the grade of executive engineers, who, to mark more clearly in the department public works the distinction between military and civil executive engineers, should be styled garrison engineers.

The garrison engineer will be a member of the military staff of the cantonment in which are his head-quarters, and will occasionally attend military parades and camps of exercise, and will thus keep up his knowledge of drill and all military matters. He will carry on his engineering works under the

rules of the public works department and under the orders of the commanding royal engineers of his military command.

Assistant garrison engineers.—In charge of sub-divisions of cantonments, of forts, roads, &c.; will be employed as assistants to the garrison engineer, who will be royal engineer subaltern, having the rank and pay of assistant engineer, and discharging their duties under the department public works rules for this grade.

Royal engineer subalterns (attached).—All subalterns of royal engineers on landing in India will be in the first instance attached to the military works branch to learn the languages, departmental procedure, &c. While so attached, they will be under the orders of the commanding royal engineer of the military command in which they are stationed, and will be available for such duties as may be required from them by the commanding royal engineer or the inspector-general of military works.

The upper and lower subordinate grades will be, as now, a part of the public works department establishment, and subject to the same rules as regards duties, pay, and promotions; but they will be, as far as possible, composed of military men, European and Native. If the reserve system be adopted for the sappers and miners, a field of employment for duly qualified men of the sapper reserve will be found in the ranks of the lower subordinate establishment.

All questions connected with fortifications pertain to the office of the inspector-general of military works, as much as do those dealing with barracks, military roads, drainage and water-supply of cantonments, barracks, fittings and furniture, &c.

The construction of new, and improvement and maintenance of existing, forts, batteries, magazines, gun emplacements, and all details of defences, are carried out by the officers of the military works branch.

Lately, however, all cases connected with the above classes of work have been referred to a defence committee, with the view of ensuring their consideration as part of one comprehensive scheme, and as based on one uniform system, by a body of officers, who, owing to their special and continuous application to this particular branch of military science, might be expected to be experts in it, to a degree unattainable by officers engaged in a multiplicity of other duties.

As, however, this defence committee, as at present constituted, will be dissolved on the 31st December next, the agency for this work must be reorganized, as the work itself to a greater or less extent must always form part of the duties of the military works branch.

The most obvious and least expensive mode of effecting this reorganization will be to assign the charge of elaborating new designs, criticizing and correcting the estimates of local officers, preparing and issuing type plans, and keeping the records and models of the present committee, the plans of forts, throughout the country, &c., to certain members of the central staff of the inspector-general's office.

Assimilating the Indian to the English system, these officers would discharge the duties of deputy and assistant directors of works for fortifications, and would be not in addition to, but part of, the reduced sanctioned scale of military works establishment. Thus their appointment would cause no extra cost to Government, and they could be employed on other duties of the central office of the military works branch as might be required. The advantage, however, of devoting one or two officers continuously to this special line of work, and thus securing for it the services of really qualified experts, would be as well secured as under the present system.

A standing defence commission, composed solely of *ex-officio* members, and thus costing nothing to Government, might be appointed to meet at rare intervals for the initiation of new schemes, or for considering projects under preparation or completed. These schemes and projects would be presented to the commission by the special officers above named, and would be by them worked out under the orders of the inspector-general of military works. If (as proposed) all royal engineer subalterns landing in India be in the first instance posted to the military works branch, officers for drawing all plans connected with these projects would be available when and to the extent required, and could be so employed without extra cost to Government.

The Defence Commission might be composed of the Commander-in-Chief as president, and the inspectors-general of military works, ordnance, and artillery, the consulting naval officer to Government, the adjutant-general, and quarter-master-general as members.

This system should ensure the consideration of all matters of defence by the senior officers of all branches of the service concerned with such questions, and at no extra cost to Government.

The duty of instructing the officers and men of the line in military engineering should devolve on officers attached to the head-quarters of sappers and miners, as stated in answer to question 61. The regular departmental duties of the military works branch, especially on the reduced scale of establishment, would be too heavy to enable them to devote more than a very small amount of attention to this work; for which, moreover, much greater facilities exist at Roorkee, Kirkee, and Bangalore.

Lieutenant-Colonel J. Hills,
R.E., Commanding Bombay Sappers and Miners.

It would tend, I believe, to make the public works department more popular among military engineers were the purely military centres placed under them in a more military manner than they are at present, and somewhat similar to the home system. I have no means of calculating the cost of such an arrangement; but it appears that were the ranks of the officers, royal engineers, properly regulated, and military foremen of works in place of assistant engineers at small stations, the cost would not be more than at present. But whatever is done, I am strongly of opinion that any system which leaves the general officer absolutely without an adviser in military engineering matters is wrong. India is the only country in the world where such a state of affairs exists.

As stated before, I do not think it profitable or advisable to instruct the army generally in military engineering, only a portion, see paragraph (G), question 61, from forty to sixty in each regiment; but I do consider it absolutely necessary to accustom each soldier to the use of the pick and the shovel, no more no less.

In telegraph and signalling teaching, I am in unison, as far as I can ascertain, with all officers who have had experience in the subject, in considering that the regimental system of signalling and telegraphy will never be a practical success; and I would prefer to see the American system of a corps of trained and constantly practised signallers kept up. The present system is cheaper possibly, as no signaller receives any pay (which is of itself an anomaly contrary to all political economy and hope of happy result); but it cannot be but viewed as a makeshift unsatisfactory, and one by which uniformity of action cannot be obtained. Were a body of telegraphists and signallers kept up, say in telegraph troops, they might be utilized on State works, and might after a certain number of years' service be passed into the civil branch of Government.

These men would on service be a good reserve to fall back upon, and obviate somewhat the objection, being trained soldiers, to the employment of civilians in keeping up the line of telegraph, &c., near the front line of operations and within the radius of the theatre of war, which objection has been made so prominent in all continental armies, and even in our own in the Crimea.

Moreover, by placing openings in the Government civil branches within reach of the men of the sappers, a great inducement would be held out for a higher class of tradesmen entering the ranks than at present exists in this presidency, where labor is so highly paid.

Lieutenant-Colonel W. Hichens,
Commanding Royal Engineers,
Southern Afghanistan Field
Force.

This question is fully answered in my reply G1; and if my recommendation with regard to the carrying out of military works be followed, the means of instruction to the army in military engineering, telegraphy, and signalling will be at hand at the head-quarters for every division.

In conclusion, I may remark that, with regard to the general constitution and organization of the royal engineers in this country, I think no better model can be copied than that of the royal engineers at home. The duties and responsibilities of the commanding royal engineers, an officer on the staff of each division, are very clearly laid down in the Queen's Regulations, section 5, paragraph 49; and I would submit that any deviation from these regulations, framed, as I believe them to be, with extraordinary wisdom, guided by the experience of the British army for a long series of years at home, in the Colonies and in the field, is likely to result, and in the case of the royal engineers in my opinion has resulted, in confusion, extravagance, and inefficiency.

Lieutenant-Colonel D. Limond,
R.E.

I consider the staff of the military works branch, public works department, should be placed under the orders of His Excellency the Commander-in-Chief. The officers would continue to perform the duties they at present carry out, coupled with those referred to in the reply to question G1. I see no necessity for any other change.

Instruction in telegraphy and signalling, being of a special character, should continue to be given as at present at Roorkee.

Finally, in time of war, a subordinate engineering staff, independent of those non-commissioned officers attached to the sappers, is very necessary. Under such circumstances, men are detached from the various branches of the public works department. They should be furnished solely from the military works branch, and no man should in my opinion be permitted to become the entire civilian—the characteristic of the great majority.

Lieutenant-Colonel W. H.
Burton, R.E.

If the charge of works in military cantonments and forts in India is kept separate from all other works, and the number of superintending engineers is only say eight, the extent of country to be under the supervision and control of a superintending engineer or a commanding royal engineers would be enormous,* and such that his supervision and control

over the works would be comparatively worthless. A commanding royal engineer's charge in England, for instance, would be on an average such that he would be within 25 miles of any barrack or work. The commanding royal engineer at Portsmouth has in his command all barracks and military roads and buildings between Christ Church and Chichester and in the Isle of Wight; also the barracks at Winchester. In India it would be of course necessary, if only sixty royal engineers' districts were maintained, to make each much larger. I would name the Oudh cantonments, civil buildings, and roads as forming a not too extensive† range of duties for a commanding royal engineer in India.

Again, to confine the duties of a commanding royal engineer to military works, pure and simple, is objectionable on the following grounds:—

First.—There will be in many stations two or more Government engineers competing for labor and materials in the same market.

Secondly.—There will be two or more office establishments, foremen of works and groups of subordinates, not fully occupied on local works, but more than fully occupied in travelling about to the same but distant out-stations.

Thirdly.—If the present local and provincial system is maintained, whereby much ignorance of what exists or is done in other parts of India prevails, that ignorance will be still further stereotyped; but the wider the experience our engineers obtain, the better will be their efficiency.

Fourthly.—It will be impossible to give adequate employment to a commanding royal engineer within reasonable distance of his ordinary residence by withholding from his charge that of the provincial works and of irrigation works other than irrigation revenue business.

* If the cantonments, &c., between Calcutta and Peshawar were to be in charge of, say, five commanding royal engineers, the extent of country over which the charge of each would range would average 100,000 square miles.

† About 20,000 square miles.

Fifthly.—By their existing in any district only one engineering authority for a period, the responsibility for the works done in that period will be clearly defined under all circumstances.

Conclusion.—For the carrying out of the above proposals, and to summarize, I would propose to appoint—

(a) An inspector-general of engineers, a general, royal engineers; to hold office for five years, to be the sole medium of communication between the Governor-General in Council and the local Governments on all engineering questions. This officer to be assisted by deputies, one for barracks (colonel, R.E.), fortifications (colonel or lieutenant-colonel, R.E.), irrigation works (colonel or lieutenant-colonel, R.E. or C.E.), railway (colonel or lieutenant-colonel, R.E. or C.E.), provincial works (colonel or lieutenant-colonel, R.E. or C.E.).

(b) A deputy adjutant-general (lieutenant-colonel, R.E.), royal engineers; to maintain, under the orders of His Excellency the Commander-in-Chief, the proper performance of royal engineer duties in India *by roster*, and so to abolish the system by which particular narrow duties and particular offices are left in the hands of particular officers during the major portion of their service.

(c) An under-secretary to Government for royal engineer department; to exercise a similar control, under the orders of the inspector-general of engineers of the civil engineers' services and roster of duties and stations.

(d) A secretary to each local Government and Administration; to represent to the Supreme Government works required, and its opinion of the manner in which works are executed within its jurisdiction.

These officers (c) and (d) to be either royal engineers or civil engineers. If the former, a colonel or lieutenant-colonel; if the latter, superintending engineers.

(e) A commanding royal engineer or superintending engineer of each of sixty royal engineer districts (forty-five of former, fifteen of latter). Finally, I think it a matter of regret that the amalgamation of the royal engineers and of late Indian engineers was not carried out in 1861, as it was originally proposed. To narrow or localize the experience of engineers is to limit the usefulness of their service. To extend their knowledge of how engineer works are carried on out of India and throughout India is to multiply the value of their services one hundredfold.

Captain J. Dundas, R.E.

This question involves very different matters, which have indeed no necessary connection with each other in my opinion. The instruction of the army in telegraphy may best be carried out (as I believe is now done) by employing soldiers in civil telegraph offices in time of peace.

Instruction in signalling might usually be given regimentally as soon as a knowledge of the subject becomes common among officers, who might attend classes of instruction.

As to military engineering, see answer 61 (b).

The designing of defensive works is undoubtedly work which can only be done by a competent engineer. But there is no such special character in barrack works. Provided that care is taken that the engineer in charge of all forts is a royal engineer, and not a civilian, it does not seem that there is anything in the construction or maintenance of military works which could not be entrusted to the public works department without any special regulation. Commanding officers, however, would probably prefer having a royal engineer in charge of their works, which moreover do not differ much from similar works in other parts of the world, and are thus more easily taken charge of than other Indian public works by an officer whose service has not previously been in India. The present organization of the military works branch of the public works department is thus very convenient, while it is undoubtedly efficient.

Captain W. H. Pierson, R.E.

The charge of purely military works (barracks and defences) is one of the legitimate duties of officers of royal engineers. The corps has been fixed at its present strength on this understanding, and not only (as implied in question No. 9) to provide officers for the sappers and miners. The department of military works should be removed from

the immediate control of a civil department of Government and placed under the direction of the Commander-in-Chief, subject of course to the necessary financial restrictions. It should be officered entirely by royal engineers, and all young officers on first coming to India should be attached to it for the reasons given in my answer to question No. 9. In other respects the establishment should be retained at the scale to which it has recently been reduced, which could not further be cut down without imperilling its efficiency. It would be advisable to alter the present title of superintending engineer to that of commanding royal engineer, and to term the executive and assistant engineers, garrison and assistant garrison engineers.

As already suggested (question No. 53), the inspector-general of military works would be the head of the corps in India, and his deputy would also exercise the functions of a deputy adjutant-general of royal engineers, assuming that an additional appointment of this nature could not be created.

In reorganizing the military works branch, the opportunity should be taken of providing for a systematic treatment of fortification questions in future, especially as there is much important work in this direction to be undertaken whenever the state of the finances will permit, the defences of India having hitherto had little attention paid to them.

It is casting no reflection on the professional attainments of artillery and engineer officers in general, to say that but few of them have the means or opportunity of becoming conversant with the ever-changing requirements for the service of heavy ordnance, and with the details of construction of forts and batteries intended to receive new guns. Such details belong to a very special branch of

artillery and engineering, in which it would be impracticable and quite unnecessary that every officer should be an expert. It is also desirable that certain fixed principles should be adopted for the defences of India; and this cannot be effected if each separate project is prepared by local officers, who moreover are very liable to overestimate the importance of the particular scheme on which they are engaged. These considerations point to the advisability, first, of placing all the defences of India, irrespective of the presidency in which they may be, under the charge of the inspector-general of military works; and secondly, of forming out of the available staff of officers a special fortification branch, as in England. These officers should prepare all projects for forts and batteries, and their designs should be criticized and revised by a standing *ex-officio* defence committee, which might with advantage consist of the Commander-in-Chief as president, with the quartermaster-general, the consulting naval officer, and the inspectors-general of military works, of artillery, and of ordnance as members. To these might also be added the deputy adjutants-general of artillery and of

Suggestions as to the instruction of the army in military engineering have already been submitted in my reply to question No. 61 (b). Under this system, and with the military duty recommended in reply to question No. 62, much additional work and responsibility will be thrown upon the already hard-worked garrison engineers, whose staff pay should in consequence be kept at least at its present level. It should be, however, noted that these officers, while most fully employed in peace time, would be receiving the best of all possible training for service in the field; and in war time they could be replaced as required by officers temporarily withdrawn from civil employment. Under such conditions, it could not be said that an excessive staff of engineer officers was kept up employed on minor duties, and at the same time a very effective provision would be made for the requirements of war.

Captain H. H. Cole, R.E., Executive Engineer.

There ought to be with the Commander-in-Chief in India an inspector-general of fortifications and a deputy adjutant-general, to whom the corps of royal engineers can look generally. With each commander of army-corps there should be a commanding engineer, with officers under him at important stations for barracks, defences, and instruction to troops. Officers commanding the brigades of sappers and miners should be professionally under commanding engineers attached to army-corps head-quarters.

Captain W. T. Stuart, Interpreter and Quartermaster, Bengal Sappers and Miners.

The system approved of in England should be modified to suit India. The subject requires (possibly) more care and thought than it gets; for it should never be forgotten that we hold India, both inside and on the frontier, by the sword.

In conclusion, I respectfully trust that nothing I have said will be found objectionable. The remarks have been made in a hurry amidst a press of work. They are from a practical soldier of nearly 30 years' experience; and if they give the Hon'ble Commission on Army Organization the least information on the important subject in question, the object of the writer, *viz.*, the better organization of the army in India, will have been gained.

Remarks by LIEUT.-COL. D. R. YOUNG, *Officiating Controller of Military Accounts, Bombay.*

Taking the budget estimate for current year, and dividing the grand total by the number of private sappers in each presidency, the cost of every private will be as follows:—

Bengal about	...	...	...	...	445
Madras „	...	...	...	...	400
Bombay „	...	...	...	...	560

It may be said that this difference is owing to Bombay being weighted by a staff equal to that for the large numbers of men employed in Bengal and Madras, and that the skeleton company of engineers presses unduly on Bombay. Still, making every allowance for such circumstances, I think that enquiry is needed when it is remembered that the budget estimate for working pay for the Madras sappers containing 1,050 privates amounts only to Rs. 25,000, whereas in Bombay with only 400 privates it is Rs. 23,040. I think that it would be well to change the present system of working pay to a fixed rate for each sapper per month. This could be made on a class scale, according to the skill of the man. At present working pay is looked on, as far as my experience goes, as part and parcel of the monthly pay of a sapper, and has therefore come, I think, to be viewed as his right, to attain which duties of all kinds are considered as giving a title. This system leads to friction in audit, unnecessary paper work, complication in accounts, and very questionable economy.

F.

NATIVE CAVALRY.

1. As it is obviously impossible to maintain an army always on a war footing, what should be the strength of a Native cavalry regiment on a peace establishment?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I consider that a Native cavalry regiment, whether on war or peace footing, should not consist of less than four squadrons; each squadron to be of the present strength.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

They cannot, in my opinion, be reduced below their present strength, *viz.*, 18 Native officers, 54 non-commissioned officers, and 384 sowars, with 6 trumpeters, which is barely sufficient to meet the requirements of the service as it is.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

I do not think a Native cavalry regiment could safely be reduced below its former peace establishment of 6 troops of 64 sabres each, with the ordinary complement of Native and non-commissioned officers.

It is necessary to maintain a regiment up to the above efficient strength, so as to form a thoroughly reliable nucleus, when it should suddenly be made up to war strength by the augmentation of its ranks, by the raising of recruits as in the late war, or the calling in of reserves, the latter of whom could scarcely be expected to be fully up to the mark at first, either in drill or general efficiency.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

A Native cavalry regiment in my opinion should, on a peace establishment, consist of—

4 resaldars.
4 resaldars.
1 woordie-major.
8 jemadars.
8 kote duffadars.
64 duffadars.
8 trumpeters.
512 sowars.

609 in all Native ranks.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

The great difficulty in forming a reserve or having a peace and war footing in Native cavalry is the *sillidar* system.

If men while in the reserve are to keep up their horses, the expense will be enormous. If they are not to keep up their horses, the difficulty of remounting them will be very great when called in for war. They will have to ride other men's horses when called in for training in peace; and, in justice, they should have the price paid for their horses returned to them on being drafted into the reserve, and should again pay it up on joining for service or training. All this is exceedingly inconvenient, if not impossible; and I think a different system than the present should be organized. The plan I propose, so as to admit of reserve, I will give hereafter. I consider that the peace strength of a Native cavalry regiment should be as under—

PEACE ESTABLISHMENT.

British officers.

1 commanding officer	} combatant.
1 second-in-command	
3 squadron commanders	
3 squadron subalterns	
1 adjutant	
1 staff officer (quartermaster, paymaster, and accountant)	} non-combatant.
1 medical officer	

Native officers.

6 resaldars.	
1 woordie-major.	
6 jemadars.	
13	13 horses.

Non-commissioned officers.

1 duffadar major.	
1 quartermaster duffadar.	
6 kote duffadars.	
19 duffadars.	
21 naib duffadars.	
48	48 horses.

Other ranks.

6 trumpeters.	6 horses.
270 sowars.	216 "
	283 "
6 camel sowars	6 camels.
1 salutri	} dismounted in peace time.
9 farriers	
286	

Establishments will be separately considered.

Regarding the above establishment, it will be noticed that I have added a 2nd-in-command, a staff officer for pay, accounts, &c., and one subaltern. My reasons for this are as under.

It is objectionable that the 2nd-in-command should also command a squadron. If he has to take command of a wing detached, and his own squadron is not a part of it, he has to leave his squadron: the same if he has to command the regiment on the commanding officer's going away temporarily. Besides, the number of officers is too small, and it should be increased somehow; and this is a good way of doing it. I consider also that every squadron should have two British officers.

The accounts officer should be a non-combatant officer. I found on service that the accounts, returns, and pay work took valuable officers away from their proper work. The work suffered; and so did the regiment. The Native officers I propose no real change in. Why one officer commanding a troop should be called a resaldar and another a resaidar, I never could see. I think all should be called resaldars. The men always give them the rank, and so, I think, should the authorities.

The additions and change in the non-commissioned officers I think a saving and an improvement. A man who becomes a duffadar, and who feels he never can be a Native officer, is a great encumbrance in a regiment. He keeps clear of anything which will bring about his reduction, but he shows no zeal, never improves, and is quite useless. With two grades of non-commissioned officers, he would have an incentive to work on.

Moreover, the system would be the same as in the British army and in the Native infantry.

In the non-commissioned officers' grades I have added 1 duffadar major, 1 quartermaster duffadar, 1 duffadar, and 3 naib duffadars, as I propose that each troop should only consist of three sections in peace. The number of non-commissioned officers will be so reduced, that the duffadar major and quartermaster duffadars are, I consider, absolutely necessary. One duffadar and 3 naibs are also necessary for drill instruction; and these should always remain with the dépôt on the corps proceeding on service.

Captain M. G. Gerard, 2nd
Central India Horse.

Nine hundred of all ranks, two of present regiments being formed into a single one. The present pay of sowars being only calculated for peace, and insufficient to bear the wear and tear of a serious campaign, they are *financially* already on a peace footing. The difference betwixt the two establishments should not, on account of remounts and other difficulties, exceed 25 per cent. Austria and Russia, with the reserve system, power to requisition all private horses, and the cheapest armies of Europe, now maintain their cavalry on permanent war footing; the former six squadrons of 900 horses, and the latter four of 600. A reduction of 100 sowars would cripple a regiment, but only save Government Rs. 2,800 monthly.

About two-thirds of present establishment.

Captain A. H. S. Neill, Central
India Horse.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

I consider that the present strength is sufficient for a peace establishment, *viz.*—

Resaldars	...	...	...	3
Resaidars	...	...	...	3
Woodie-major	...	...	...	1
Jemadars	...	...	...	6
Duffadars	...	...	...	54
Trumpeters	...	...	...	6
Sowars	...	...	...	420
Total				493

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

The total of Native ranks in a Punjab cavalry regiment is 493 against 444 in the Bengal cavalry, and this was no more than were required for the heavy duties on the former frontier, and also to admit of furlough being open all the year round to a complete troop at a time.

Supposing the new frontier duty requirements to be the same as the old, all regiments liable to serve thereon should be of the present strength of Punjab cavalry. So I cannot see that any reductions for a peace footing are possible.

But I offer as a mere suggestion, demanding more mature consideration than I have given it, that all cavalry regiments be first raised to 493 of all Native ranks, so that any regiment may at any time be ready to serve on the frontier, and that then a complete troop per regiment be always on furlough, and, whilst so, receive only three-fourths of their full pay: good conduct, order of merit, and such like pay not to be included in the three-fourths calculation. Short leave for two months to be granted, as now, on full pay. Bengal cavalry have not this boon of furlough all the year round, so that the reduction of pay might, perhaps, be attached to the grant thereof. With Punjab cavalry, who enjoy the boon on full pay already, the reduction might commence after the entire regiment has rejoined from their next tour of furlough, that is, with the second grant of furlough to the regiment after its return to India.

Colonel J. Blair, *v.c.*, Com-
mandant 1st Bombay Lancers.

The strength of a cavalry regiment should never be under 480 sabres, as it takes at least twelve months to turn out a recruit ready for the ranks.

Lieutenant-Colonel C. La-
Touche, Commandant Poona
Horse.

The strength of a Native cavalry regiment on a peace footing should depend very much on the number of stations at which cavalry are required for purposes of garrison duty, and the number of regiments available for the performance of such duty. Any hard-and-fast principle, irrespective of such considerations, would lead to different results in different parts of the country. The peace establishment of the Bombay cavalry regiments could not now, in my opinion, be reduced without detriment to the public service, in consequence of the great reduction that has taken place in this presidency of late years, no fewer than six regiments having been disbanded since 1862. There are now only seven regiments of Bombay cavalry. Three of

these are permanently quartered in Sind, and the remaining four regiments have to garrison Poona, Sirur, Neemuch, Nusseerabad, Deesa, Rajkot, and, up to twelve months ago, Khandesh in addition. Detachments have also during the last few years been stationed at Baroda, Sholapur, and Kaladgi.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

1 resaldar major	}	Total 15.
1 wordie major (resaldar)		
1 quartermaster (resaldar)		
4 resaldars for squadrons		
4 resaldars } for troops		
4 jemadars }		
1 kote duffadar-major		
1 farrier-major		
1 trumpet-major		
8 kote duffadars		
30 duffadars	}	Total 627 sabres.
30 naiks		
8 farriers		
8 trumpeters		
540 sowars		

Major A. R. Heyland, 1st Bombay Light Cavalry.

Two squadrons (mounted) complete in all respects (on full pay).

9 Native officers, including Native adjutant.
1 kote duffadar-major.
1 farrier-major.
1 quartermaster duffadar.
4 kote duffadars.
20 duffadars.
4 trumpeters.
20 naiks.
266 privates.

326 Natives and 326 horses.

One reserve squadron (dismounted, on half-dismounted pay).

4 Native officers.
2 kote duffadars.
10 duffadars.
2 trumpeters.
10 naiks.
133 privates.

161 Natives.

487 Natives and 326 horses.

2. What should be the strength of a Native cavalry regiment on a war establishment?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 6th Bengal Cavalry.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Vide answer 1.

Raise the strength by 96 men, making a total of 480 sowars.

A regiment of the strength I have stated should be increased in time of war by 20 sabres per troop, keeping the same complement of non-commissioned officers.

On a war establishment its strength should remain the same; but when sent on active service its place in garrison should be filled by calling out for garrison duty the affiliated reserve regiment of its district, thus at once doubling the numbers under arms.

The war strength should be raised to the following :—

British Officers.

As in answer 1, but 1 subaltern extra to take charge of the dépôt.

Native Officers.

1 resaldar	}	in addition; to join the dépôt.
1 jemadar		

Non-Commissioned Officers and Staff.

1 kote duffadar	}	extra; to join the dépôt.
1 trumpeter		
2 farriers		

Non-Commissioned Officers for Service Troops.

6 duffadars.

12 naib duffadars.

17½ sowars.

3 farriers.

All recruits should join the depôt, not one going on service.

Note.—I consider that all Native officers, all non-commissioned officers, and trumpeters should have a horse each. Eighty per cent. of the men should be mounted in peace time, 90 per cent. in war.

One thousand to 1,200, according to requirements. What with recruits and remounts at first, and sick, &c., subsequently, an effective of 900 would be kept up.

As at present.

For a war establishment I propose an increase of sixty sowars as sanctioned during the late augmentation; a proper proportion of non-commissioned officers should be added, say six duffadars. No increase of Native officers required, as the extra men would be posted to the different troops.

The war establishment would be—

Resaldars	...	...	...	3
Resaidars	...	...	...	3
Woordie major	...	...	...	1
Jemadars	...	...	...	6
Duffadars	...	...	...	60
Trumpeters	...	...	...	6
Sowars	...	...	...	480

Total ... 559

Captain N. G. Gerard, 2nd Central India Horse.

Captain A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

The furlough men recalled and the entire regiment available for active service, by its depôt and all its detachments right up to the front being taken by its own reserve men: see answer 25.

Strength should be 560 sabres, including Native officers.

The war establishment should be sufficiently in excess of the peace establishment to permit of the regiment taking the field at its full strength. After making due allowance for the sick unfits, recruits and others whom it would be necessary to leave behind, 20 per cent. in excess of peace establishment, would probably provide for such an arrangement.

Same as in answer 1, with the addition of 200 sowars.

The full strength of men and horses as in present establishment. In three squadrons. Total 487 Natives of all ranks and 487 horses.

3. What should be the number of squadrons per regiment?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Captain A. H. S. Neill, Central India Horse.

Vide answer 1.

Three sufficient for all practical purposes.

For a regiment of the above strength, I would retain three squadrons as at present.

The number of squadrons should be 4, that number being for all purposes preferable to 3. If regiments were composed of 4 instead of 3 squadrons, the command and adjutant's and various other allowances and expenses of one out of every four regiments would be saved, without any diminution of strength.

I see no reason why the number of squadrons should be altered. The expense of the change would be great, and would not be justified by any increased efficiency.

Six—four of which would form regiment for service, and two depôt, garrisons, &c.

Three squadrons per regiment for war, and two for peace establishment.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

The cavalry regulations provide for the instruction in drill of regiments of four squadrons, but by the constitution of cavalry regiments, there are only three squadron commanders and three squadron officers and three squadrons. This appears to me good, and I would not advocate any change.

What with outposts and other duties, a regiment has never more than sufficient men to form three squadrons on parade. Four squadrons are too much for the voice of the commandant to reach when the regiment is in motion; and if ever the regiment is strong enough to parade four squadrons, the squadron officers could act as squadron commanders either on parade or service.

As at present.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

Colonel J. Blair, r.c., Com-
mandant 1st Bombay Lancers.

Three squadrons as at present, but in time of war four squadrons. A depot of 50 sabres would have to be left behind. It would be necessary to augment the regiment at once by 80 odd sabres, as this could not be carried out at once; it would be necessary to resort to the same measure as was carried out when the regiment was ordered on service to Malta by attaching a full troop from another regiment; this was found to answer admirably. The regiment giving this troop could enlist the number of extra sabres, drill and train them, and forward them to the regiment on service to fill up the casualties.

For the existing strength I consider three squadrons the proper proportion, each squadron forming a command sufficiently strong to fully occupy the time of the commander. If four squadrons were formed, I would have a fourth squadron commander instead of the infantry system of wings. I consider one squadron of existing strength quite sufficient for one officer to look after, and I would prefer having the commanders independent of each other.

Four.

Lieutenant-Colonel C. La-
Touche, Commandant Poona
Horse.

Lieutenant-Colonel J. H. P.
Malcolmson, Commanding 3rd
Sind Horse.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

Replied to in answers Nos. 1 and 2, viz.,—

2 effective squadrons
1 reserve dismounted squadron } in peace,
3 effective squadrons on a war footing,
or on ditto,

as proposed in answer No. 5. Two regiments brought together for service in the field.

4 effective squadrons.
2 depot (reserve) squadrons, which would become effective as fast as remounts were obtained and broken in.

4. What should be the number of European officers per regiment, and how distributed?

Colonel O. Wilkinson, Com-
manding 2nd Bengal Cavalry.

There should be a commanding officer, a 2nd-in-command, one squadron commander for each squadron, one subaltern, and adjutant and doctor—nine officers in all.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

The present number is barely sufficient with all present. I would recommend an additional squadron officer.

Colonel Hugh Gough, Com-
mandant 12th Bengal Cavalry.

There should be at least—

1 commandant.
1 adjutant.
2 British officers for each squadron, viz.,—
1 commander
and
1 subaltern.

I consider that at least the above complement of officers should accompany a regiment on service.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

The number of European officers should be as follows:—

1 lieutenant-colonel commanding.
1 major 2nd-in-command.
5 captains, of whom 4 would command squadrons, while one would be appointed to command the reserve of the regiment.
8 subalterns, of whom 1 would be adjutant of the regiment, 1 adjutant of the reserve, 1 quartermaster of the regiment, 4 attached to the regiment, 1 attached to the reserve—making a total of 15 European officers.

In the event of the regiment being ordered on service, the lieutenant-colonel, major, 4 captains and 6 subalterns, or 12 officers in all, would accompany it, leaving 1 captain, the adjutant of reserves, and 1 subaltern to take charge of the reserve in case it should be called out for garrison duty.

Have been answered in answer 1.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Fifteen combatants (six squadrons) : 1 commandant, 1 adjutant, 1 assistant adjutant, 6 squadron commanders, 6 squadron subalterns.

This gives two permanent European officers per squadron, and saves Rs. 800 a month on present pay of officers for six squadrons. The assistant adjutant (on Rs. 200 staff) would in peace act as quartermaster or adjutant of detached wing and adjutant of dépôt in war. All six-month vacancies should be filled up.

Captain A. H. S. Neill, Central India Horse.

Not less in proportion than at present. The work of the European officer has increased much since the present organization was established. Musketry, signalling, and pioneering have all been introduced since then, and now the European officer has as much as he can do. Some of this work might certainly be thrown more on the Native troop leaders by reducing returns, &c., to a minimum.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Everyone must agree that the more European officers there are the better; but as the expense is increased in proportion, we must consider what is the fewest number we can do with consistent with efficiency; and I think to have a squadron commander and a squadron officer permanently to each squadron is as good an arrangement as could be, provided two or three attached officers are posted to take the place of any squadron officer that may be on leave, sick, or officiating in a higher grade.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Ten : 1 commandant.
2 adjutant and quartermaster.
3 squadron commanders.
3 squadron officers.
1 medical officer.

Colonel J. Blair, v.o., Commandant 1st Bombay Lancers.

1 commandant.
3 squadron commanders.
3 squadron officers.
1 adjutant.
1 quartermaster and officer in charge of pioneers.
1 surgeon.

Total ... 10

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

One commander and one subaltern for each squadron. Under existing circumstances this is quite impossible, owing to garrison instruction signalling, veterinary school, riding school, and other such like duties which take officers away from the regiment. I think this might be remedied by having more subalterns. There ought, in my opinion, to be a squadron officer and an attached subaltern to each squadron besides the commander.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

1 commandant.
4 squadron commanders.
2 squadron subalterns.
1 adjutant.
1 medical officer.

Major A. R. Heyland, 1st Bombay Light Cavalry.

1 commandant.
1 adjutant and ridingmaster.
1 quartermaster and paymaster.
2 squadron commanders.
2 squadron officers.
1 medical officer.

Total ... 8

5. Do you consider that regiments of Native cavalry could be united for purposes of administration ?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I do not think that regiments of Native cavalry should be united for administration.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

Colonel Hugh Gough, Com-
mandant 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating
Commandant 10th (Duke of
Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd
Central India Horse.

Captain A. H. S. Neill, Central
India Horse.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

No, impracticable, unless regiments were made local like the Central India Horse, which is not desirable for very many reasons.

No, not advantageously.

There are doubtless certain advantages in the linked system (by which I understand the question), especially in the assistance one corps could afford to its sister regiment in time of emergency, by immediately filling up its ranks with old and trained soldiers, and also in peace times, by help in recruiting, should the one regiment be stationed in the district they would both come from. But I do not think the advantages of the linked system would counterbalance the disadvantages. I allude especially to the want of *esprit de corps* which would inevitably ensue from a system by which the men are liable to be transferred from one regiment to another at any time.

Native soldiers, and especially those in the Native cavalry, enlist in a regiment with a feeling that it is to be their *home* during their service.

From father to son, men enlist in the same regiment; they get attached to it and to their officers; and I think that the fact of introducing a system by which men could not possibly retain this strong feeling of *esprit de corps* and clanship as it were would be prejudicial to the interests of the service.

I do not think that for administrative purposes regiments could be united.

No, I think not. I see nothing whatever advantageous in it, but a good deal detrimental. I think all regiments would suffer by having the commanding officers away from them: reference of matters to a distance, which should be settled on the spot, is subversive of discipline, and to be avoided.

Yes, as above stated, by retaining the present number of squadrons and halving the number of regiments. The system to be essentially a squadron one, and squadron commanders to be entrusted with far more responsibility, and subject to the commandant's interference with the enlistment, training, and promotion of their men. In fact, to give full liberty of action, and judge by the results if the officer were fit for his position. It would increase interest in work, and lead to a wholesome rivalry. The selection of service and depot squadrons being left to the commandant would prove a great incentive.

A wing would generally be in another cantonment, and should be of three or two squadrons according to requirements, not necessarily half the regiment. They should relieve each other by squadrons annually.

The service strength above advocated giving 800 men for 4 squadrons sounds unwieldy; but considering the number of detachments, casualties, and duties of Native cavalry, four squadrons of 50 files would seldom parade.

They might be similar somewhat to the Central India Horse. Take, for instance, two regiments of two squadrons brigaded together. Complement of officers might be as follows:—

	Staff pay.
	Rs.
1 commandant as brigadier ...	800
2 2nd-in-command and squadron commanders, each ...	500
2 squadron commanders ...	210
2 adjutants ...	250
2 squadron officers ...	150
2 resaldar-majors.	
6 resaldars.	
2 woodie-majors.	
8 jemadars.	

In case of war a regiment of three full squadrons would be fit for immediate service, officered by 1 commandant, 1 2nd-in-command, 2 squadron commanders, 1 adjutant, and 2 squadron officers, with full complement of Native officers. The 4th squadron, composed of the cripples of both regiments, would form a depot under the 2nd-in-command and an adjutant.

I am not quite sure what is meant by this question.

I think it would be an excellent arrangement to have an inspector general of cavalry; for now, as a rule, cavalry regiments are annually inspected by general officers, who, never having served in that branch, are not acquainted with the system and interior economy of regiments.

I think the amalgamation of an infantry and cavalry corps like the Guides, or two cavalry regiments like the Central India Horse, is good, for it is economical, and there would be greater *esprit de corps*; but it would necessitate their always being together, and only a portion of the

army could be thus constituted. Four corps of the description of the Guides might be on this frontier, one at each of the stations of Kohat, Bunnoo, Dera Ismail Khan, and Dera Ghazi Khan.

The pay of four commandants would thus be saved to Government, and they might relieve one another periodically. Commandants of these corps might receive Rs. 200 per mensem extra.

The rest of the force to consist of single regiments.

I don't see why this system should not be adopted in the Bengal army, where we might have a dozen such corps.

They would never be separated to garrison single corps stations, except as a very temporary measure, and the command would be sought after and considered a prize for our smartest commandants.

It would also give a large number of officers an insight into the working of both branches of the service, and tend to their greater efficiency.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. La-Touche, Commandant Poona Horse.

I presume the plan of the Central India Horse is here referred to. To adopt this generally would be to deprive the army of a great and legitimate prize, and would, in the event of a separation of regiments on service or otherwise, be exacting the work of a commandant for the pay of a 2nd-in-command.

I think it could be made to answer very well, provided the system in the different regiments were the same.

I consider that one regiment, if properly looked after, is quite sufficient to occupy the time and attention of one commanding officer. The system of having one commandant for two or three regiments, though it may answer in special corps like the Central India Horse, is, in my opinion, most unadvisable as a general measure of army reform, and would create a great deal of friction. Such a system prevailed some years ago in the Sind Horse, but it must be remembered that in those days Sind was a newly annexed country, and that the upper portion was in a most disturbed state. It was necessary, under such circumstances, to trust everything to one man, and to give him almost absolute powers. He nominated his own friends, and naturally selected such men as he personally liked. He had practically complete control over the appointing of officers for his regiment, and as complete power to get rid of anyone who did not suit him. Personal ties, therefore, and prospects of extraordinary rapid promotions kept in check such influences which would otherwise inevitably have made themselves felt. Young men of a very few years' service were placed in comparatively prominent position which stimulated their zeal and energy to the utmost. To apply such a system to the whole army would, according to my judgment, be a mistake, from the want of the special circumstances which have made it suitable to special cases. Furthermore, to extend too much the sphere of influence of one commanding officer would tend to limit the chances of progress and development, and things would be apt very much to run in a groove; whereas by the maintenance of the present system of having a commanding officer to each regiment, such tendencies would at least be reduced to a minimum. It would, moreover, have a very prejudicial effect on the zeal and energy of regimental officers to feel that, in spite of the slow promotion now prevailing, their prospects were to be still further slighted by uniting two or three regiments under one colonel commandant. An officer who is nominally in command of a regiment should, in my opinion, be in reality a commandant, and there should be no one between him and the brigadier commanding the station.

Lieutenant-Colonel J. H. P. Macdonald, Commanding 3rd Sind Horse.

Yes. To maintain the larger numbers in the regiment on the peace establishment as proposed by me, and yet reduce expenditure without the loss of efficiency, I would propose two of these being linked under one commandant. The second regiment as it were being commanded by the senior squadron commander on parade or when detached, but in all drill, interior economy, dress and discipline, being entirely under the commandant. In addition to the numbers laid down in my former answer, I would propose to have a dépôt squadron of 200 sowars who would be recruits. The object of this would be to increase the regiment ordered on service to its war footing.

The regiment remaining at the dépôt would at once furnish the required number of men and horses, and would receive from the dépôt squadron such recruits as men fit for the ranks, these vacancies in the dépôt squadron being filled up by enlistments. In this way the second regiment would act as a feeder to the one on service, and would fill up from time to time the casualties both in men and horses of killed, sick, and disabled, and would in the meantime be receiving periodical batches of named recruits from the dépôt squadron. It would not be necessary to give the dépôt squadron horses (*i.e.*, Assamese) during peace (but in time

of war I would have likewise half of them mounted), as they could learn their mounted drill on the horses of the two regiments. I have fixed the war establishment at the smallest number, as I do not think any cavalry regiment should be unable to place 600 sabres in the fighting line any time it may be called upon, and 200 is not a very large allowance in sick, guards, escorts, and other duties falling to the lot of cavalry on service. Indeed, during this campaign I have seldom had less, and often more away.

All the European and Native officers and even non-commissioned officers should be in one list, and liable to be transferred from one portion of the regiment, as considered advisable by the commandant either for promotion or any other reason. I think it would be well to have a fixed dépôt or head-quarters for the two regiments, where they should return after an absence of three years, each in its turn moving to new stations. They should, however, still remain under the control of the commandant, and no change of any description should be allowed to be introduced without his sanction. With this in view, he should be allowed to inspect the absent regiment annually. This would ensure a thorough inspection by an officer in every way acquainted with each detail.

The above arrangement while causing a saving would greatly increase the efficiency, I think, of the regiments.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Yes, while on a war footing only. I would recommend two regiments of two squadrons each being for the time considered and kept as one of four squadrons, and the surplus officers available by reduction of one commandant, one adjutant, and one quartermaster employed with the two reserve or dépôt squadrons, which should be brought together, remounts purchased and broke in.

6. And the officers borne on one regimental list for promotion ?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I would not advise officers to be borne on one regimental list for promotion.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

No; promotion should go, as far as possible, regimentally; but due regard should be had to superior merit or services. It should be remembered that many of our best regiments have been made what they are by men so selected. Any dead-level system of promotion is apt to lead to a dull and hopeless method of doing service when one man is considered as good as another.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

Were regiments united, as proposed in the previous question, the principle of placing all the officers on one list for promotion might be very advantageously applied, and would probably accelerate promotion.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

It would be advantageous if the officers of two regiments composed of the same classes were borne on one list for promotion.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

No; I think the present system is better. Officers should know their men, and this will be impossible if they are to be changed from one corps to another. Promotions in regiments *ordinarily* I think highly desirable; but there are cases when it should be otherwise.

Captain M. G. Gerard, 2nd Central India Horse.

No; the irregular system can only be efficient by rigid adherence to selection. With so few you can afford no indifferent officers, in responsible posts more especially. A seniority list tempered by selection might be theoretically good, but practically a mere roster. Furlough, staff, and other vacancies must also be temporarily filled from somewhere.

If squadrons were more independent, as advocated, the abilities of different officers would be easier contrasted, and the transfer of a commandant from another regiment would not affect the interior economy.

Captain A. H. S. Neill, Central India Horse.

Yes; the officers to be borne on one roll, and promotion to go by seniority in the force or brigade as it were. The officers in the course of their service would thus become acquainted with the men of both corps.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

I don't see what is to be gained by this. In the staff corps they get promoted after a certain number of years, and are given appointments by selection. If cavalry officers were borne on a separate list, they would have to be promoted in the same way.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Vide answer 5.

Colonel J. Blair, r.e., Commandant 1st Bombay Lancers.

The officers of the 1st, 2nd, 3rd, and Poona Horse should be borne on one list for purposes of promotion. The three Sind Horse regiments to have a list of their own.

Lieutenant-Colonel C. La Touche,
Commandant Poona Horse.

All promotion should go in regiments, and officers should not be transferred on any account from one corps to another merely to satisfy the claims of army rank. I consider it of vital importance in a Native regiment that the men should know their European officers and trust them, and that the latter should take an interest in the well-being of their men. If an officer knows he may be at any moment transferred from one corps to another, or that an officer from another regiment may be brought in his own corps over his head, it is quite impossible he can take a keen interest in his regiment and enter thoroughly with heart and soul into all that concerns its welfare. Many years of comradeship form a strong tie between officers and men in any army; but in the case of Native troops this is especially the case; and in my opinion any changes that may be made in army organization should be based on the system of regimental promotion.

Yes.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Certainly not. Were this done, officers being transferred from one regiment to another would lose that knowledge of their men, and the men of their officers, which is so very essential in any regiment, and more especially in a cavalry regiment; moreover, officers and men would lose much interest in their work, and efficiency seriously impaired.

7. Do you consider that there should be a fixed dépôt or head-quarters for the regiment at which it should be stationed after a tour of service elsewhere?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I do not consider that there should be a fixed dépôt for a regiment at which it should be stationed after a tour of service elsewhere.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

This might be advantageous if regiments were all composed of one class from one district; but from a *political* point of view, it would probably be considered objectionable and give rise to a doubt, lest, in some local popular disturbance, the regiment might unite with the people, or refuse to act against them if called on.

Colonel Hugh Gough, Commandant, 12th Bengal Cavalry.

No; this measure would, in my opinion, approach too nearly to the system of localization—a measure to be avoided both on political and military grounds.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

In my opinion it would be advisable for the regiment of the first line to be permanently quartered during peace in its own district, while always liable to be sent elsewhere according to the exigencies of the service. The soldiery of each district would thus be isolated; and if disaffection should arise in any particular locality, it could be easily repressed by employing forces from other parts or of other classes. The greatly improved circumstances of localized troops, and the consequent increase of contentment would, however, render the growth of disaffection very unlikely.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

I consider that Government will secure better men and more willing soldiers (if that is possible) by having all corps local corps, *i.e.*, with a permanent head-quarters. This is a matter I have often discussed with intelligent Native officers and men. The feeling is almost universally in favor of permanent head-quarters and comfortable houses for men and their families.

Captain M. G. Gerard, 2nd Central India Horse.

Yes, drawing recruits from *anywhere* not necessarily from that one district. There are certain objections, but these advantages—

1st.—Being cheaper for the men, it is equivalent to increased pay.
2nd.—It is very popular, in proof. In 2nd Central India Horse in last two years 23 and 33 pensioners passed medical board for whose vacancies 26 and 37 recruits presented themselves *within 24 hours*. All had come down on challee from 300 to 600 miles, and all had the price of their assams (Rs. 300 about).

3rd.—Grain funds can be established: *vide* reply No. 39.

4th.—Better lines and stables can be built regimentally to increase health and comfort of the men; and the money therein invested being refunded on discharge, it adds to each man's stake in the regiment and his loss in event of mutiny.

5th.—Far from feeling monotony, Natives are averse to change for its own sake.

Captain A. H. S. Nhill, Central India Horse.

Yes; under this system there should be fixed head-quarters, and regiments should be localized in particular districts.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

This system would make the service very popular. We should get the best men of that district into our ranks. The men would be more loyal. Their regiment and their homes would be synonymous terms. Sick men or men recalled from leave would not have to travel great distances at Government expense; and altogether the advantages would be very great.

In good recruiting districts, such as Amritsar and Lahore, several regiments might have their depôts there.

The families and private property of the regiment away would be in their villages, and could not be interfered with by the men of the regiment occupying the lines, which is the fear with Goorkhas, who, being an alien race, have not their villages and relations round about to look after their families left behind, who have to be accommodated in the lines.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

Such would be advantageous to Government and to the soldier in saving the cost of periodical reliefs; but there is the possible harm of too long and intimate association of a regiment with its surroundings. Moreover, a soldier, as any other man, is all the better for moving about and seeing and being seen and acquiring some knowledge of the people and their ways of more than one district. For instance, the Sikhs and Hindustanis of my regiment could get on in most matters with Afghans on this expedition; whilst those classes in regiments that had not served on the frontier were helpless without an interpreter.

Colonel J. Blair, r.c., Com-
mandant 1st Bombay Lancers.

Each regiment should have fixed head-quarters and to which it should return after its tour of service; it answers well in the Sind and Poona Horse regiments, as the men have no expenses on moving their families from station to station. In the 1st, 2nd and 3rd regiments, family men, as a rule, are invariably hard pushed, after a long march, for good two years after their arrival at a new station. In Sind, Government have erected pendols for the unmarried men of the Sind and Biluch regiments; these men have no deductions in the way of line repairs to pay; consequently, at the end of ten years or so, they are well off and able to marry and settle down comfortably.

Lieutenant-Colonel C. La-
Touche, Commandant Poona
Horse.

I am an advocate for permanent head-quarters, the services of a regiment being of course available for duty elsewhere when the interests of the State may demand it. Such has been the case with my own regiment since it was raised in 1817. The arguments in favor of such a system appear to me, as follows:—

- 1st.—The regimental head-quarters form the home of the regiment; the men bring their families with them and make themselves comfortable; and when they are sent away on service or detachment duty, they leave their families behind with the depôt, knowing that they will be well taken care of during their absence, and they are furthermore saved the expense of sending them back to their own villages.
- 2nd.—The system of permanent head-quarters induces a good class of men to enlist who would not otherwise accept service.
- 3rd.—It saves the men all the expenses of a move every time their name appears in the relief.
- 4th.—It enables the men to become thoroughly acquainted with the inhabitants of the district in which they are quartered; the knowledge thus acquired being of great use to the Government in case of local disturbance. My regiment has for many years had its head-quarters in the Deccan, with a squadron on detached duty in Khandeish; and if a reference were made to the Bombay Government as to the services they have performed in former days in Khandeish when the Bheels were up, or lately hunting down the Deccan dacoities, I feel sure that the most flattering testimony as to the services they have performed in the suppression of local outbreaks could be given on their behalf.
- 5th.—The presence of the families at regimental head-quarters is a strong security for good behaviour in the event of troublous times.
- 6th.—Permanent head-quarters assist in maintaining a good *esprit de corps*; old soldiers who are worn out put their sons into the regiment, taking their pensions at regimental head-quarters. Their influence has a healthy effect on the conduct of their sons. The traditions of the regiment and its former services are thus kept alive in the corps, and the regimental head-quarters is not merely looked on as a station where so many years must be passed to qualify for pension, but as a permanent home which in many cases is adopted in super-session of the men's own native villages.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Yes.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Yes. Not only do I consider that there should be a fixed head-quarters, but I would urge that all Bombay cavalry regiments be localized, that the cavalry stations be re-distributed with a view to convenience as regards strategical requirements, communications by rail, forage for horses, districts suitable for breeding remounts, &c., &c.

The maximum mobility of the mounted squadrons in each regiment should be ensured by requiring several weeks or days marching from them annually, either to and from a camp of exercise or elsewhere, but at *no cost to Government*. This would be found the most certain method to ensure proper regimental camp equipage and transport, being kept up.

8. Would the families of the men be likely to settle at the head-quarter station?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I am of opinion that the families of men would not be likely to settle at the head-quarter station.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

If regiments were raised as above, the families of the men would be sufficiently close in their own villages and would not move; if regiments were composed of various classes from various districts, they would not settle there either.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

A fixed dépôt or head-quarters station could only be applicable for *class* regiments. Even in such a case I do not think the men's families would care to settle there. There is too strong a *home* feeling in the minds of natives to induce them readily to leave the villages they and their forefathers have inhabited. As a commanding officer, I should be sorry to see the men's families located in or about the lines.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

The families of such troops would remain as a matter of course in their own homes, which would be close at hand. They should not be permitted to live in cantonments.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Vide reply in paragraph 7.

Captain M. G. Gerard, 2nd Central India Horse.

Only from the non-zemindari class. With 75 per cent. zemindars to 25 per cent. non-landholders, we have 20 to 25 per cent. families present, chiefly belonging to latter class. The Central India Horse change from Goona to Angur (130 miles) every three years.

Captain A. H. S. Neill, Central India Horse.

Certainly, if regiments were localized and had not to move far. I think the men would readily have their families with them, but I do not see any advantage in having the families.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Undoubtedly they would. But as the regiment would be recruited from the neighbourhood, the majority would continue to reside in their own villages.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Some few would; but no man would break up his own home for the purpose, or forego his furlough or leave.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

I am sure numbers would, if they had fixed head-quarters.

Lieutenant-Colonel G. La-Touche, Commandant, Poona Horse.

This is disposed of in reply to No. 7. The families of the Poona Horse are all at Sirur.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Yes; I certainly think they would, and I believe the men transferred to the reserve as subsequently proposed would also settle down there, as is very often the case even now at Jacobabad after they have been pensioned.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Yes, assuredly the families would settle at regimental head-quarters, and besides sildars' prospects greatly improved both in a pecuniary point of view and as regards their general comfort and contentment. There is no doubt whatever that the sildars of a local corps have very decided advantages over their comrades in marching regiments.

9. State the districts (mentioning the civil districts or collectorates in which the villages of the men are situated) from which you chiefly obtain your recruits.

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

The 2nd Bengal Cavalry being a mixed regiment, recruiting is not confined to any particular district. There are men from all parts of Bengal presidency, excepting frontier.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

1st Troop.—Ghukkurs from Jhelum and Pathans from Peshawar.
2nd Troop.—Rajpoots from Mynpoorie and Cawnpore.
3rd Troop.—Mahomedans from Rohilkhand.
4th Troop.—Sikhs from Loodianah, Amritsar, and Rawal Pindi.
5th Troop.—Dogras from Kangra and Hooshiarpore.
6th Troop.—Jâts from Rohtak and Bulandshahr.

Colonel Hugh Gough, Com-
mandant 12th Bengal Cavalry.

The 12th Bengal Cavalry was originally a Sikh regiment: hence there is a preponderance of that element. They are chiefly enlisted from the Lahore, Ferozepore, Amritsar, and Loodianah districts. Three troops are composed of Sikhs.

One troop Punjabi Mahomedans, comprising a number of Ghukkurs. These latter are enlisted from the Pindi Ghait and Doomaylec districts, and the majority of the troop generally from the Rawal Pindi division, comprising Jhelum and Gujarat.

One troop of Pathans, chiefly enlisted from the trans-Indus districts about Peshawar, but these men are with difficulty enlisted, being without means.

A mixed troop comprised of Dogras, Jâts and Hindoo Rajpoots. The former are enlisted in the Kangra district, and do not make good cavalry soldiers, and chiefly enlist in the infantry.

The Jâts are obtained from the Bulundshahr and Rohtak districts, and the few Hindoo Rajpoots from about Allypurr.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

The 3rd Bengal Cavalry is composed of three troops of Mahomedans, who come chiefly from the Delhi, Rohtak, and Geogaon districts; of one troop of Jâts from Rohtak and Hissar; of one troop of Rajpoots from Rohtak and Hissar; and of one troop of Sikhs from Puttiala and Loodianah.

Major O. Barnes, Officiating
Commandant 10th (Duke of Cam-
bridge's Own) Bengal Lancers.

The 10th Bengal Lancers consists of—

Two troops of Sikhs, enlisted in Loodianah and Amritsar districts chiefly.

One Punjabi Mahomedans, chiefly from Jhelum.

One Pathans and Biluchis, from Hazara, the northern border, and Dera Ismail Khan: so to speak, no men over the border are taken.

One Dogras, from Kangra and Gurdaspur.

One Jâts, from Rohtak.

This is what we ought to have at least; but on the forces going to Malta we raised a fourth squadron, consisting of one troop of Sikhs and one of Pathans and Punjabi Mahomedans; and in process of time we absorbed them into the other three squadrons, so that our Dogras and Jâts are far below strength—the other classes above it.

Captain M. G. Gerard, 2nd
Central India Horse.

Delhi	...	Mussulmans	...	30	} 40 per cent.
Rohtak	...	Jâts	...	10	
Northern Punjab	...	Mussulmans	...	8	} 30 "
Amritsar	...	(Pathans.)	...	27	
Frontier	...	Sikhs	...	16	} "
Chumbul (Gwalior).	...	Thakurs	...	7	
Mynpoorie	...	Rajpoots	...	7	} "
Malwa	...	Sikhs	...	7	
Total				100	

The 1st Central India Horse has few Thakurs and a larger Pathan element.

Captain A. H. S. Neill, Central
India Horse.

The Central India Horse is composed of class troops:—

- 1 squadron Sikhs.
- 1 do. Mahomedans.
- 1 troop Jâts.
- 1 do. Hindoos—

Dogras, Rajpoots, &c., &c.

The men are recruited from the districts which these classes inhabit.

There are no recruits obtainable from among the inhabitants of Central India.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

The 4th Punjab Cavalry was raised at Pind Dadun Khan, and was recruited largely from the neighbouring districts. Hindustani Mahomedans, Hindus, and Dogras have since been introduced to equalize castes, but the Mahomedans, Hindus, and Sikhs of the Rawal Pindi, Jhelum, and Gujarat districts may be considered the predominating races from which the regiment obtains recruits.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

Mooltan, Dera Ismail Khan, Kohat, Peshawar from Buddabir to Eusufzai, Rawal Pindi, Shahpur, Jhelum, Gujrat, Lahore, Amritsar, Jullundur, Loodianah, Umballa, Meerut, Delhi, Gurgaon, Rohtak, Alwar, Jeypore, Bulandshahr, and Aylghur.

Recruits during last five years—

Deccan	{	Sattara, Poona, Sangli, Belgaum Ahmednuggur.	Guzerat	{	Baroda, Ahmedabad, Deesa, Puttun Sunt.
59				11	Born in the regiment.
Concan	{	Rutnagberry, Bombay.		8	Khandeish.
				1	Kattywar.
15				100	Total.

Lieutenant-Colonel C. La-Touche, Commandant Poona Horse.

Such a thing as a recruiting party is unknown in the Poona Horse. Owing to the popularity of the regiment, in great part due to its system of permanent head-quarters, candidates for enlistment are abundant, and present themselves for service without any action on the part of the commanding officers. They are in nearly all cases either the relations or friends of men already in the regiment. Some are born in the regiment, some come from the homes of the men in Hindustan, and some from the Deccan. In all cases, however, they are brought up by the men themselves. Khandeish, Sattara, Nagar and Poona supply the Deccan recruits, and the Hindustan men come from the North-West Provinces chiefly.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Ulwar, Mhow, Furruckabad.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Not easy to do without reference to my regiment, which time will not admit of.

I am aware that for some years past very few recruits have been obtained in the 1st Light Cavalry by recruiting parties, but nearly all have been introduced by men in the regiment. The statements given by these men as to the parts of the country they came from were seldom to be depended upon, as they so frequently, to procure service, false-stated that they were from places within limits of the presidency.

10. Would it be desirable to recruit your regiment from one particular area of country?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

So long as the 2nd Bengal Cavalry is a mixed regiment, I would not confine recruiting to any particular area of country.

Colonel C. J. S. Gough, 6th Bengal Cavalry.

No; I don't think this would be a good system, and objectionable both from a military and political point of view; it is easy to see that certain corps obtain preference for service, which is disheartening, if not unfair, to others. This would be more so than ever if some corps were raised from among men supposed, and perhaps rightly, to be of better stuff; whilst others were forced to raise their men from districts and classes not so well thought of. Every regiment should have an equal chance of getting the best and most soldier-like class of men.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

Only in the case of class regiments.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

It would be desirable to recruit the regiment wholly from the Delhi district if it were composed entirely of Muhammadans.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

I consider it so important that all regiments should be of one class and one country, that it is a constant regret to me that this measure is only so little adopted. The class regiments are the most popular and the best in the service.

Captain M. G. Gerard, 2nd Central India Horse.

No; our present system works admirably.

Captain A. H. S. Neill, Central India Horse.

Not the Central India Horse. Would recommend certain restrictions in recruiting, say, for instance, the Bombay cavalry to enlist from their own side of India, and not go to the Punjab and Northern India for men.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

It would be very desirable. The answer given to question 7 would apply here.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

I think not (see answer 30).

Colonel J. Blair, V.O., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. La Touche, Commanding Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

11. Do you consider the present system of increasing the army on the outbreak of a war sound and satisfactory as regards its results ?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Colonel Hugh Gough, Commanding 13th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Burnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

No; I think that commandants should be allowed to enlist to what caste they liked; but at the same time to prevent an abuse of such privilege, the adjutant-general should be informed that so many recruits were wanted, and that the commandant proposed having a certain number of each tribe, for the information of the Commander-in-Chief.

No; I think it is a great mistake limiting commanding officers to a particular district or locality. I think they should be allowed great latitude as to the districts whence they should draw their recruits. Tying a commanding officer down to a certain district must inevitably lead to his entertaining many men of whom he disapproved, and at the same time would compel him to reject many candidates whom he would gladly enlist. I think the existing regulations should be relaxed in favor of commanding officers.

I think not, because there is no doubt that great difference exists between the physique of the different races in India; and if any regulations are restricted to districts when this physique is weak, it brings undeserved reflections on them, and very frequently leads to their condemnation through no fault of the commanding officer. I would propose that every regiment should have a certain proportion of each of the good classes.

No, I prefer a mixture of men from different districts.

The present system of increasing the army on the outbreak of war is not satisfactory as regards cavalry. The time required to make a cavalry soldier, the scarcity of remounts, and the difficulty in supplying and afterwards disposing of his equipments, are all objections against meeting sudden emergencies.

Most unsatisfactory, particularly for cavalry. In this regiment the men having to be recruited from six different classes from various parts of India is one difficulty, and getting men with money is another. The mounting and equipping of a number of men beyond the usual strength of the regiment; obtaining clothing, arms, and saddlery and tents, which in this regiment were ordered at once for the increased complement and mostly obtained, whilst the full number of recruits have not been entertained, and further recruiting stopped, thus throwing a quantity of clothing and equipments on the regiment; this followed by the subsequent reduction when the regiment, having more arms, clothing, horses, and equipments of sorts than required, is unable to take over those of the discharged sower, without loss to one or both—all these are difficulties which, in my opinion, render the present system most unsatisfactory.

Far from it. After the regiment under my command had been about a month under canvas, and were already on the borders of the Afghan frontier, orders were received to raise an additional strength of 16 men per troop. To enable me to do this, I had to detail recruiting and remount parties from the head-quarters of my regiment, thus weakening our fighting strength; an establishment had also to be kept up at the depot, to drill the young recruits and break in the remounts as they arrived. Owing to the paucity of British officers borne on a regiment of Bengal cavalry, I could not afford to detach one for the purpose of superintending the enlistment of the recruits; and the result was that, although the number required were eventually raised, they were not of the stamp of men I approved of, and at no time were they fit to proceed on active service.

I consider the present system to be very far from sound or satisfactory.

No, quite the reverse. On joining the army of Afghanistan we were very fortunately circumstanced, as we had just made four squadrons into three, and so had hardly any recruits; but other regiments with 100 recruits were practically unfit for service. I consider none but trained soldiers should ever go on service. Not only do recruits do no work, but they take away the best soldiers from their proper work to look after them.

Yes; if Government will grant a slight compensation on reduction, it seems the best adapted to such an exceptionally situated army.

Absorption can be effected with slight loss to chanda by casting a smaller percentage for two or three years, a horse's term of service averaging only half that of a sowar's. Arms, &c., are a dead loss to regiments, and should be purchased, on redaction, by Government.

The objections to its working as shown by recent war, all of which would be obviated by organization (3), (4), (5), were—

1st.—Half-trained recruits with regimental head-quarters in the field were useless men and horses to feed, &c., a source of unsteadiness in an alarm.

2nd.—Had operations proceeded actively, neither could officers have spared time for their instruction, nor been left behind with the recruits for the purpose, as they were required to manage their own squadrons in the field.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

No; certainly not. The recruits enlisted hastily were inferior as to physique in many cases, and had not completed their training before the war was over.

In no way. I have not seen a single recruit of the augmentation. I would, if necessary, increase regiments for active service, not by volunteers from regiments remaining in garrison, but by bodies, say troops or squadrons, of such regiments, they being the most distant from the scene of war, filling up by their own reserve (see answer 25), or recruits.

Lieutenant-Colonel C. La-
Touche, Commanding Poona
Horse.

I consider the present system unsatisfactory. In the first place, a cavalry soldier cannot be made thoroughly effective at a moment's notice. A great deal of training has to be gone through for man and horse; and the latter must likewise be put into thorough condition before he is fit to undergo the hardships and privations of a campaign. If a

campaign extended over a year, then no doubt a good deal might be done even with raw material of men and horses to start with; but in the event of a short sharp campaign, it is extremely doubtful whether newly enlisted soldiers hastily trained would meet the requirements of the service, if opposed to a disciplined enemy. But there are other objections to it in addition to the above. Qualified recruits, with capital sufficient to purchase and equip a horse, cannot be procured at a moment's notice. In the Bombay presidency the average price of remounts is four hundred rupees. Saddlery, baggage-ponies, &c., &c., would certainly come to over one hundred rupees an assamee. Speaking approximately, therefore, for each cavalry soldier raised, five hundred rupees would be required. Where is the money to come from? A few men with that amount of capital might, no doubt, be forthcoming at a moment's notice; but certainly they would not be forthcoming in large numbers. This difficulty could only be got over by Government presenting each man on enlistment with his horse and saddlery free, and furnishing him with the funds for making his baggage arrangements; for by the rules of the service each soldier must keep up a baggage-pony for every two horses. Supposing, however, that Government did come forward with the funds, and equip and horse each newly raised soldier free of cost, there would still be further difficulty at the close of the campaign. Orders would then be issued to stop recruiting. Shortly afterwards perhaps a dozen men might go on pension; their places would not be filled up; therefore twelve assamees would have to be absorbed. But the owner of such would be men who had purchased their assamees perhaps years before out of their own money; and therefore, if these were reduced, Government would have to compensate them for the loss of their capital. The only alternative for Government would be to absorb one of the newly-raised assamees, taking back their own horses. The effect of this measure would be to convert the newly-raised soldiers into bargees. This would cause great discontent, and, if known before, would probably cut off the supply of available recruits. Taking it which way you will, I look upon the present arrangement as one full of difficulties and complications, which might no doubt on an emergency be overcome, but only by the outlay of a large sum of public money.

Lieutenant-Colonel J. H. P.
Malcolmson, Commanding 3rd
Sind Horse.

Certainly not. It is, I think, very unsatisfactory.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

Decidedly not satisfactory in any respect.

12. What number of recruits were obtained in the recent augmentation, and what numbers were sufficiently trained to allow of their serving as effective soldiers with the regiment prior to the termination of the war?

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

Seventy-eight recruits in all were entertained; but as the regiment was 5 below strength, and 17 vacancies occurred after the order for enlistment through invaliding and other casualties, 118 recruits were actually required to bring the regiment up to the war strength. Of the 78 recruits so entertained, one-half would have been *useful*, though not thoroughly trained as effective soldiers.

Colonel Hugh Gough, Com-
manding 12th Bengal Cavalry.

The full number of recruits were eventually obtained, but being utterly raw material, and in many cases not of the stamp for cavalry soldiers, there was one whom I could pronounce thoroughly effective

as fighting men, being only half trained, though perhaps *one-third* might have been utilized for certain duties, and would of course have gained experience and training had we advanced into Afghanistan.

Seventy-eight recruits were obtained ; none of them were sufficiently trained.

Even if they had been obtained on the day of the declaration of war, and if on that day horses, arms, accoutrements and equipments had been served out to them, I do not consider that they could have become effective before the conclusion of the war ; for it takes at least twelve months to instruct an intelligent cavalry recruit up to an effective standard ; and as a matter of fact considerable delay must always take place in obtaining remounts for any large number of recruits simultaneously enlisted.

This is answered in my reply No. 11 ; but our regiment was the only regiment in the service with four squadrons during 1878.

As one regiment of the increased strength could be instantly despatched by the force, no augmentation was made in the Central India Horse which on account of detachments has a permanent establishment of 140 instead of 128 sowars per squadron.

Ninety-one recruits were enlisted on account of the augmentation and to supply vacancies.

Fourteen only were dismissed drill as effective soldiers, thoroughly trained.

Thirty others were sufficiently so to admit of their joining the ranks should they have been wanted.

A great number of casualties occurred during 1878-79.

Thirty-four. None have joined the regiment up to date.

The orders of my regiment to proceed on field service having been countermanded prior to any possibility of augmentation, I am unable to give any information on this point.

The order to recruit to the war establishment was only received after the regiment had marched from Jacobabad ; consequently, there was some delay in sending recruiting parties ; but the requisite number was soon obtained, but none of them were sufficiently trained to join the ranks before the termination of the war.

The 1st Light Cavalry was not one of those augmented, nor am I acquainted with any regiment so augmented.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Lieutenant-Colonel C. LaTouche, Commanding Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

13. If your regiment were ordered on service, what number of men are there now serving who would be unfit for active service, either on account of age or on account of being recruits ?

Colonel C. J. S. Gough, 5th Bengal Cavalry.

All men would be fit, except those who would be sent before the next invaliding committee. Generally about 15 men are passed by the Board yearly.

I would prefer to take *all* recruits who were fully equipped ; they would learn their work much faster and better, and would soon become efficient soldiers, and would at all times be useful in taking minor duties in camp and enabling the effective to turn out for fighting purposes.

Of old soldiers now borne in the rolls of the regiment, there are about 40 men, who from sickness, brought on by the fatigues and privations of the campaign, would be unfit to proceed on further active service, and who are now either on sick leave or at the dépôt.

Of the recruits, my latest accounts from the regiment state that they are all steadily progressing, and I presume about two-thirds would be fit to proceed.

There are not more than two or three men now serving in the regiment whose age might possibly unfit them for active service. There are now 77 recruits.

We have very few old men in the regiment, and only about 30 recruits ; say, therefore, we have 35 men short of war strength.

Note.—The regiment is still in Afghanistan.

Out of 493 Natives of all ranks, half the Native officers and 100 rank and file, though able to stand actual campaigning, are unfit in the saddle, from stoutness and want of nerve.

About 20 recruits unfit in musketry only.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Captain A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. LaTouche, Commanding Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Most of former could be pensioned under existing rules, but partly from difficulties raised by medical boards, and chiefly from dislike to take their pensions, and in consideration of past services they are yet in the ranks.

Very few. There are no very old men in the corps, and the recruits would not be much of a burden to the regiment, and would soon be sufficiently hurried to be efficient.

There are five men that would be unfitted on account of age, and there are 72 recruits, of whom 45 are, however, sufficiently trained to render them effective soldiers on a campaign.

Probably not 6 on account of age. There are at the dépôt at Dera Ghazi Khan 105 recruits,—34 the augmentation and 71 in place of pensioners and death vacancies.

Unfit	...	...	...	10
Wanting	...	...	...	3
Recruits at drill	...	...	...	47*
Total				60

In this regiment about twenty men are pensioned annually as unfits, and allowing ten more for temporary ailments and thirty-five for recruits, the total unfit for active service would average about sixty-five.

About 12 besides the 60 old recruits at Jacobabad.

I cannot at present say, having been away from the regiment some months; but I am aware that when it received the orders to embark as part of the Malta Expedition, that there were about—

recruits	...	...	...	17
men declared by the doctors unfit to go on service	...	...	...	65
Total				82

14. At what age do you consider that Native soldiers become unfitted for the hard work of a campaign?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Beogal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Captain A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

I think cavalry soldiers are not generally fitted for the hard work of a campaign after about 36, if so long.

It is impossible to lay down a hard-and-fast rule on this subject: I should say between 50 and 55.

At from 40 to 45 years of age.

A properly selected recruit would probably last fit for any campaign up to 45 years of age; as an average, I should say 40 years of age.

Speaking of course, as a rule, I should say 50 years. This allows a man to enlist under present rules at 18, and serve 32 years for full pension. I do not think any one should serve longer.

After 40 they are seldom good horsemen, though able to stand actual fatigue up to 45 or 50. We have a few of the old Khalsa Sikhs upwards of 60 still wiry and hard.

From 40 to 45 years, according to class. I think the Mahomedan wears the least best.

This is difficult to answer, as Natives never know their own age; but I think, as a rule, a Native soldier, especially if he is in the infantry, is not of much use for hard work after 45 years of age; but a great deal depends of course on their habits of living. A cavalry soldier doing his duty mounted would last a little longer.

Say after 25 years' service, or about 45 years of age; but many older men are fit for any work.

After fifty years. I would not admit men to pension, as at present, at such short service as fifteen years; it is undoubtedly the cause of much malingering amongst a great portion of the Bombay army when

* This is exceptional. A number of men had to be invalided on our return from Cyprus at the end of last year: hence the large number of recruits.

officers, and frequently the men themselves, have opportunities (not existing elsewhere) in detached outposts, commands, and positions for showing their judgment, intelligence, and commonsense. But to foster a desire to reap these public advantages the service beyond the presidency or on the frontier can be made popular—

By a regular roster for such service. Regular reliefs from such, say every two years.

As liberal grants during such service as Government care to afford, such as free camel-carriage from and back to their station in India, or free rations or batta from and to the date of their quitting and returning to India.

And on their arrival at their appointed station in India, a liberal grant of leave, so that the whole regiment should visit their homes during the first year of their return. Another point, and it should almost be classed first of all, is the simplifying the monthly remittances of all Natives (soldiers or public or private followers) attached to a regiment so serving; for it is almost impossible to exaggerate the inconvenience many men have been put to during this expedition to Kandahar owing to the delay in their remittances reaching their homes. I recommend that the commanding officer of such a regiment be empowered to draw cheques on any treasury in India for such *bond fide* purposes. I have fully described the system I recommended in my letter No. 309, dated 14th August 1879, to the address of the Assistant Adjutant-General, Field Force, Kandahar, for the information of the Adjutant-General in India, and can, if necessary, repeat what I then said. I am convinced that it, or something like it, would be the greatest imaginable boon to soldiers serving out of India.

I will only add that if the grants-in-aid to popularize distant service are thought too lavish, it should be remembered that the most lasting and widely circulating impressions are caused by a travelled soldier returning to his home a rich man.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

The only advantage that I can see is by mixing and being brigaded with other regiments; it stirs up all ranks. But this regiment, except in time of war, has never served beyond its own presidency.

Lieutenant-Colonel C. La Touche, Commanding Poona Horse.

If on field service, certainly; but for mere garrison duty I see no advantage whatever. I think that the European officers in many cases might like it; but as regards the body of the regiment, I think such a measure would be very unpopular.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

I consider it is an advantage for any regiment to be called on to serve beyond the limits of the presidency and on the frontier. In the former case they become acquainted with different countries and circumstances, learn to accommodate themselves to the altered circumstances, and on the frontier learn to rough it and get an insight into the practical working of their drill, which they can never hope to gain in the ordinary routine of garrison duty in a down-country cantonment.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Yes, for active service, leaving a European officer to have charge of depot and reserve, and returning to regimental head-quarter station after a tour of service abroad. But I should preserve the presidency name, number, and traditions of each regiment most carefully.

16. Do you consider the reserve system could be applied to the Native army?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I consider the reserve system could be applied to the Native army, but it must involve very considerable expense.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Yes; a reserve system might advantageously be instituted, and the following appears to me a feasible and certainly good one for the cavalry, if not considered too costly. Raise regimental establishment from 384 sowars to 480. Of these, form 96 into reserve. These men must have served 15 years in the ranks, bear good characters, and be physically fit. The ages of men so transferred would be between 33 and 37. They should receive Rs. 20 per mensem consolidated pay, including chanda and horse allowance. They would remain on the rolls of the regiment, through which they should draw pay monthly, the same as men on furlough. They would be treated in fact as on furlough for five years, or the time so employed, and would maintain horse, arms, clothing, and equipments (his carbine only should be left with his regiment). They should have to go through 15 clear days' training annually with the nearest cavalry regiment, when they should be reported on or certified by such commanding officer as efficient, and horse, arms, equipments serviceable and in good order. After five years' service in this reserve, they should be eligible for their ordinary pension, if passed by a medical board.

By this arrangement every regiment would be fully maintained, mounted and equipped at fighting strength, and the saving of pay per man would be Rs. 10 per mensem, as each of these men would otherwise obtain, with good-conduct pay, Rs. 30 per mensem.

I believe the men would be glad to accept these terms, and the reserve fully maintained. I don't think they could do the thing well on less pay than Rs. 20. The effect would be that every regiment would muster its full war strength within a very few days of calling out its reserves.

I am opposed to any system which would reduce a regiment of good seasoned soldiers to one of boys. Neither do I think any system would be suitable for cavalry that did not include the maintenance of horses.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

1st.—Soldiering being a profitable trade, the terms necessary to induce sowars to join the reserve are relatively extravagant. Enforced short service would deter recruits. From enquiries made, nothing under Rs. 10 per mensem, about full dismounted pay, would be acceptable to men of 15 years' service, and duffadars more.

A sowar on Rs. 30 spends on an average Rs. 12 per mensem *regimentally* (horse, uniform, syce, &c., including house, troop servants, and numerous advantages). He thus has, deducting interest of his assamees, a clear Rs. 16 per mensem profit (some men save Rs. 100 annually after providing food, &c.). Three-fourths of our men are zemindars, who one year with another can thereby just support their families; their fields are cultivated by family arrangements, and their absence or otherwise represents a difference of Rs. 6 or so, whilst regimental duty is no more onerous than field labor. This estimated loss by the transaction of Rs. 10 must be made good by Government to induce sowars to join the reserve.

The one-fourth non-zemindars, having no trade to live by, require similar inducements; but would be ready to earn pay as Government ehuprassis, &c., which the former class would not. A Native cavalry regiment is already in some senses a reserve only, as Government expenditure must be largely increased to enable it to bear a severe campaign.

2nd.—Government, moreover, must provide horse, arms, and saddlery to reserve men, as it requires 10 to 12 years' full pay to make the khudaspasystem profitable.

3rd.—Natives of a certain age, if not in regular work, become indifferent horsemen; so as I believe in the necessity of only a percentage of sowars having a careful musketry training, half-trained recruits are preferable to middle-aged reservists for cavalry, though it is not so for infantry.

4th.—Assamees must be returned to men quitting the regiment for reserve; and this bail for their fidelity ceases also.

5th.—The influences of *esprit de corps* and personal regard for officers would by transfer to reserve be the one partially, and the latter entirely, removed.

6th.—Even if reservists were ready, trained remounts would lack. So that the service squadrons would probably be reinforced no sooner than under present system.

Captain A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. La Touche, Commanding Poona Horse.

I think a judicious system of reserves is the only way to render regiments thoroughly effective in war strength, and to maintain them so.

I consider that not only could the reserve system be applied to the Native army, but that such a system is in fact essential to the development of its efficiency.

To the Native infantry readily; to the Native cavalry, as at present constituted, with more difficulty.

No; save on a limited scale, it would be false in principle, and a failure in practice (for cavalry). The former as our Indian army is as much for internal as exterior defence; the latter for various reasons:—

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Yes, I do; and I think it would be very popular with the men.

Yes, as an experiment well worth trying, if it is manned voluntarily by men who have land, and so giving promise of their ability to perform what they have to undertake.

No.—The reserve system I think a very delicate subject to handle. I myself would put no trust in it, as Natives are so easily led away. Experience has shown that men who were thought most loyal and trustworthy during 1857 were tempted away; but of course it may be different now.

Questions 17, 18, 19 (a), (b), (c), 20, 21, 22, 23, and 24 are all answered in the above.

I see no reason, theoretically speaking, why the system of reserves should not be applied to the Native army. Whether the practical result of such a system would be satisfactory could only be ascertained by actual experiment. The principal point to be considered appears to me to be the political expediency of having a large number of trained men in the prime of life all over the country, who, even if they could not get at their own arms, might possibly, in the event of another mutiny, find their way into foreign territory, to swell the ranks of the Native States. If there is any reason to suppose that the time has not as yet arrived to count with absolute certainty on the loyalty of Native troops being proof against influence which might be brought to bear against it, then I think it would be worth while considering whether a system, which would throw on to their own resources a large number of men who accept military service because they are unfitted for anything else, would not have a mischievous result. As regards the cavalry branch of the service, no system would, in my opinion, meet the requirements of the case that did not provide for the supply of well-trained and well-seasoned remounts, as remarked in reply to question No. 11. Cavalry soldiers cannot be turned out at a moment's notice fit to take the field; and as the cavalry is the branch of the service which would in the event of a war be the very first whose services would be required, it should, in my opinion, be always kept as nearly as possible at war strength. I look upon the question of cavalry reserves as one which requires very careful consideration; inasmuch as, no matter how well the man may be trained, he is useless without an equally well-trained and well-seasoned horse. I would certainly deprecate any system that would permit of a cavalry reserve man

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being permitted to draw horse allowance on the condition of his mustering a horse in his village; for most assuredly, though from want of work the animal might present a respectable appearance when inspected, his condition would be such as to speedily break down if exposed to any heavy strain on the outbreak of hostilities. Any system of cavalry reserves should carefully provide, therefore, for the condition of the horse as well as that of the man. I look upon systems of reserve, however, as far more applicable to the infantry than the mounted branches of the service.

Lieutenant-Colonel J. H. P. Yes.
Malcolmson, Commanding 3rd
Sind Horse.

Major A. R. Heyland, 1st
Bombay Light Cavalry,

If carried out at once and on a large scale, I think it would be decidedly incurring too much risk; but on a small scale, and carried on a regimental system, with quarterly musterings, I think it should be tried.

17. Do you consider that in the case of popular disturbance men in the reserve would respond to the call to join their colors; or would they be likely to make common cause against Government?

Colonel O. Wilkinson, Com-
manding 2nd Bengal Cavalry.

I think, if the Government is liberal to reserve men, they would be likely in the great majority of cases to rejoin their colors.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

This would always much depend on the exciting cause. There are some questions, which being cleverly raised, and men's minds violently agitated on, would probably carry them away. But with the present system of government, I do not see the slightest probability of any such agitation occurring; and on all ordinary occasions my opinion is, that these men could be safely calculated on to do their duty.

Colonel Hugh Gough, Com-
manding 12th Bengal Cavalry.

I think men in the reserve would be equally loyal as their comrades with regimental head-quarters; and that their regular annual training, combined with the feeling of discipline and supervision, would cause them fully to remember their duties as soldiers.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

I do not doubt that the reserve soldiers would join their colors whenever called on. If the habit of discipline and loyalty were not sufficient to make them do so, they would be apt to remember that they differed from the rest of their neighbours in being all enrolled, that their homes were known, and that they could be easily got at after a disturbance was quelled.

Major O. Barnes, Officiating
Commandant 10th (Duke of
Cambridge's Own) Bengal Lancers.

I think if reserve men have a stake in Government prosperity, they will uphold the Government, make their post worth holding, and they will hold it and be loyal to Government, because loyal to themselves.

Captain M. G. Gerard, 2nd
Central India Horse.

They would hold aloof under pretexts of sickness, unsafety of roads, &c., in any sufficiently serious affair to induce doubts of our ultimate supremacy, and try to see how the tide turned. Removed from regimental influences, exposed to those of seditious agents, and swayed by entreaties of their families, it seems most probable they would simply consult their personal interests.

Captain A. H. S. Neill, Cen-
tral India Horse.

If there was sufficient inducement, either from religious or mercenary causes, I think a great number would just as soon make common cause against the Government as not.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

I think they would all join their colors. A few might not; but they would be without arms.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

After the mutiny, I dare not answer with any assurance for the men in the case put; but I believe they would respond to the call of Government. I am afraid I cannot include Pathans from near our former border in this belief.

Lieutenant-Colonel C. La
Touche, Commanding Poona
Horse.

My own opinion is, that the chances of the men responding to the Government call are greatly in excess of the chances of their making common cause against the State. But after the experiences of the mutiny, I do not see how it is possible to speak with certainty on the subject. I believe the time will eventually come when Government will be able to look with perfect confidence on their reserves; but at present it would be safer to assume that, though many of the men will join their colors, there will be some who at a really critical juncture may be expected to turn the other way, more especially amongst men of the lower grades, who may find the prospect of looking forward to a long period of service in the reserve, on small pay, not at all to their liking.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

I think the men would gladly rejoin the regiment. It must be remembered that men leaving the regiment by no means lose all interest in it. They leave their assamees in which they have invested their money to their friends and relations, and consequently take a lively interest in the well-being of the same; and I feel sure the men of the regiment passed into the reserve as I propose would without hesitation join the Government in suppressing any disturbance.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Only, if it be made obviously to their individual advantage to remain faithful, should they be depended upon. To make this clear to their minds, the pay and other advantages of the reserve should be as liberal as possible.

18. After what number of years' service would you pass a soldier into the reserve; and how long should he be called on to serve with the reserve before being able to claim pension?

What should be the pay given while in the reserve?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I think cavalry soldiers should serve fourteen years with the regiment and ten years in the reserve before being able to claim pension; but they must not be more than 18 on enlistment.

I think it would be impossible to offer the reserve men less than five and four rupees, first and second class.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

In my reply to 16, I stated—for cavalry after 15 years' service he might pass into reserve; after five years' service in which he would become eligible for pension, and his pay, including chanda and horse allowance for maintenance of his horse, would be Rs. 20 per mensem.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

I am of opinion that Native soldiers should be engaged to serve a period of six years (liable within three years to discharge at the discretion of commanding officers, if not likely to develop into good soldiers, as at present).

At the expiry of six years, the commanding officer to decide whether the man is fit to remain with the regiment, be drafted into the reserve, or be finally discharged. According to his decision, the soldier to have the option whether he accepts it or takes his final discharge.

No man to be passed into the reserve who is not a good character and a good soldier.

As a matter of rule, commanding officers will be loth to pass their best men from their regiments to the reserve. And from my experience, I should say most good soldiers would prefer remaining with their regiments than leaving for their homes, even with the inducements of pay with the reserve. But there are hundreds of thoroughly good and reliable men, who are constantly taking their discharge owing to urgent private causes, forced to take this step by circumstances at the time, and who, as often as not, would gladly re-enlist. The prospect of a reserve would be to these men a great boon.

All men passed from regiments into the reserve should be borne on a regimental reserve roll, and on being called out revert to their own regiments.

Men re-engaging after their first six years, should be engaged for another six years; after which, as before, they might remain with their regiments or join the reserve, at the discretion and recommendation of their commanding officers.

Those remaining with their regiments for the full term of 18 years to come under pension rules and conditions, as at present.

For men in the reserve, I would not recommend any pension whatever, but a gratuity on final discharge after 12 and 15 years' service, both in the ranks and reserve inclusive.

The pay of all the rank and file in the reserve to be the same when out of training; but when called out for their annual course an extra sum to be granted, say in the former case Rs. 2 per mensem, and in the latter Rs. 6 in addition thereto, with extra staff pay for non-commissioned officers according to grade. With regard to the Native cavalry soldier passing into the reserve, one or two points for question present themselves, the chief of which is, how is his assamee to be arranged for? On a sowar's transfer from his regiment to the reserve, he would, as a matter of course, have his accounts squared, and receive the full balance of his assamee, exactly as if he was receiving his final discharge.

The question then arises, who is to be answerable for the man's assamee when called out for service, or whence are his arms, accoutrements, and horse to be procured?

For the mere matter of his annual training, I think the sowar might be on the same footing as his infantry comrade. His arms, which should be supplied by the Government, might, indeed ought, to be kept at the reserve centre of his district. His uniform, which for reserve duties would be of the simplest, he should be himself answerable for. And for his annual training, I do not think horse or horse equipments would be necessary; inasmuch as for the annual course of training a course of musketry and drill in foot should be sufficient, except on such opportunities which may offer themselves from the fact of his regiment being quartered in the district.

But on being called out for service, the reserve man must produce his assamee, or the equivalent in money; and to ensure his doing so, it would be absolutely necessary that good and substantial security should be taken at the time of his passing into the reserve from his regiment.

The security I would propose to be taken from two at least of the principal lambardars of his village, under the orders of the civil authorities. This step would, I think, ensure the forthcoming of the usual amount a sowar brings on enlistment, being from Rs. 150 to Rs. 200, which in the case of the reserve man coming forward, probably with some pecuniary inconvenience and for a limited period, might be fixed at the lower sum.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

After 1½ years' service he should, if not promoted, and if physically fit, be passed into the reserve; and he should serve in it 12 years more, or 26 in all. I would also permit any trained soldier after three years' service to volunteer for the reserve, provided he obtained his commanding officer's sanction, and provided the numbers of the reserve did not exceed the strength of a line regiment, provided also that he did not become entitled to pension till after a total service of 26 years.

I would also permit a sufficient number of Native officers and non-commissioned officers to be passed into the reserve, provided that this latter class did not become entitled to pension till after a total service of 32 years.

Reserve pay should be as follows:—

		Per mensem.
		Rs.
Ressaldar and ressaidars	...	40
Jemadars	...	25
Duffadars	...	17
Sowars and trumpeters	...	14

The above scale to apply to those who possess and produce at periodical muster a suitable horse.

	Rs.
Dismounted reserve pay to be, for duffadars	6
And sowars	4

Full pay should be given to all ranks when called out for drill or service.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

I think a hard-and-fast line would be an error. No man should be allowed to join the reserve till he has served 4 years; and sowars after 12 years service should be passed into the reserve, in which they should serve 12 years more.

The pension rules would have to be altered considerably. Having no stage between 15 and 32 years is a very great mistake. Men leave at 15 years who would be happy to serve longer for a larger pension; but they do not wish to serve so long as 32 years. An ascending scale should be adopted, and the men permitted to take pension at pleasure, whether fit or unfit for service. After 24 years' service no sowars, unless passed by a medical board, should be allowed to serve longer in the reserve; and none should serve after 50 years of age. Officers and non-commissioned officers should have a separate scale of service; and I think it would be fair to allow a reserve man to be promoted back to the service troops.

I think a reserve sowar should get Rs. 3 a month without any deductions whatever. He should, when called out for training, get one month's pay, in addition to the pay for the time he is out. When called out for service, he should get one month's pay in advance and two on discharge, also in addition to ordinary pay.

Captain A. H. S. Neill, Central India Horse.

I consider the question of reserve totally impracticable for Native cavalry. The reserve men after a few years of idleness would lose their nerve and riding, and would be no better, probably worse, than a fresh-caught recruit.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Six duffadars and sixty sowars (*vide* answer 1) to form the reserve of each regiment.

After three years' service I would allow them to volunteer for the reserve. Any man after ten years' service to be liable to be sent by his commanding officer to the reserve.

It is thought many will volunteer who otherwise would have to resign the service on account of family affairs.

Pension rules to apply to them. In fact, their service in the reserve to count as service with the regiment in every respect.

Their pay should be—

			Rs. A.
Dismounted	...	...	5 0
Horse fund	...	...	2 10
Horse allowance	...	...	7 0
Total			14 10

in addition to good-conduct pay.

No man living beyond the border to be allowed to join the reserve.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

On and after completing 15 years' service in the army, and on completing 25 years' combined army and reserve service, he should be entitled to claim his pension.

If he becomes disqualified from sickness at any time after entering the reserve, he must be pensioned as he would have been in the army.

His monthly pay should be Rs. 16 as a sowar, Rs. 20 as a duffadar, and Rs. 30 as a Native officer; and he should receive it either from his late commanding officer through the nearest treasury officer, or through the reserve staff on producing a satisfactory amount.

Lieutenant-Colonel C. La Touche, Commanding Poona Horse.

The number of years a soldier should serve before being passed into the reserve should depend on the numerical strength of the reserves, which it is the object of Government to maintain. In my opinion a Native soldier is perfectly trained both as regards his drill and discipline in four years; and if it is the object of Government to lay the foundation of a large reserve army, I see no reason why soldiers should not be passed into it after that period. I presume, however, that economy, rather than great numerical strength, is the result aimed at; and I would, therefore, suggest that a soldier should serve 15 years with the colors. On being passed into the reserve, he should receive Rs. 5 a month.

Lieutenant-Colonel J. H. P. Mulcolumson, Commanding 3rd Sind Horse.

I think in the cavalry after ten years' service a soldier might be passed into the reserve for 10 years' further service. The rest from military duties after 10 years only would reinvigorate him; and he would, I think, under these circumstances, be able to bear the hardships of a campaign for a longer period than he otherwise would.

Two rupees a month would, I think, be sufficient, as they would be quite able to work for themselves.

Major A. R. Heyland, 1st Bombay Light Cavalry.

I would make this entirely dependent upon the requirements of the service; but would not let any Native soldier enter the reserve under five years' service on full pay with the regiment, and only as many as were required to make up the reserve of the regiment, and could be spared, giving priority of choice to serve in the reserve according to seniority in

each rank. I believe employment in the reserve would be eagerly sought for by Native cavalry, if certain privileges to be mentioned further on were accorded them.

I would make the pay of the reserve for all ranks half that with the colors, but without cutting, and exclusive of horse allowance and compensation for dearness of provisions, to both of which latter they should not be entitled; and would have the men of the reserve troops or companies mustered quarterly with their regiments or detachments of their regiments in the cavalry, and in the infantry with the nearest detachment or regiment in the same presidency, for payment; and permit them to retain the rank in which they entered the reserve; and permit promotion to go on in the reserve, keeping of course to the proportion of each rank in the reserve troop or company.

19. (a) Do you think it would be an advantage to divide the reserve into two classes, the first liable to be called out for active service, and the second for garrison service only, the first class passing into the second?

(b) If you consider that the reserve should be divided into two classes, what should be the pay of each class?

(c) How long should a man serve in the first reserve, and how long in the second reserve?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

(a) I would recommend to divide the reserve into two classes.

(b) Answered in 18.

(c) I think that a man should be liable to serve five years in each grade.

No.

Colonel O. J. S. Gough, 5th Bengal Cavalry.

No; I think not. At least until the experiment of a first reserve has had a thorough good trial.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

I think it would be a mistake to complicate the organization by having more than one class of reserve. At the same time I would permit men from the reserve during war to volunteer for service with the line regiment during the continuance of the campaign. Such volunteers would probably be found sufficient to supply the place of casualties, while, at the close of a campaign, the recruits who in the meantime had been enlisted and instructed at the local head-quarters would be ready to step into their places and allow of their return to the reserve.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

I do not consider that a reserve in India at all resembles a European reserve, and that there is nothing to be gained by two classes.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

(a) The reserve should be regimental and composed of two lines. The first line of those mentioned in answer 18; the second to be men of 15 years' service, who, though unfit for fatigue, may have some work left in them sufficient for ordinary garrison duties.

These could be invalided when finally unfit. The second line would not number more than twelve men.

They need not keep their horses. When called out, they would join on foot, and do foot garrison duty on full dismounted pay, *viz.*, Rs. 9-6, in addition to good-conduct pay.

Vacancies caused by men joining the second line to be filled by enlisting recruits.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

(b) First line, full pay when called out, and as mentioned in answer 18 when with the reserve.

Second line, full dismounted pay when called out, *viz.*, Rs. 9-6, and when with the reserve Rs. 5.

(c) He should be inspected yearly. If his horse is not looked after, or if he misbehaves or is slovenly, the commanding officer could order him back to head-quarters, and let another volunteer go in his place.

After three years in the reserve he must return for three years with the colors; and so on until 15 years' service, when he can be sent *volens volens* to the dismounted reserve if unfit for hard work.

I do not think a second class would be worth its cost.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

(a) Yes; I think that if the reserve system is decided upon, it would be most advisable, as a measure of economy, to carry it out to its fullest extent, in order that Government might get the worth of the money disbursed annually in pensions.

(b) I would make no difference in pay, whether the man was in the first class or the second. Whether called out to fight or to do garrison duty, the man would in either case have to give up any employment he might have got; and though in the former case the work would be harder, and the risk greater, still I think most soldiers worthy of the name would prefer the excitement of active service to the monotony of garrison duty.

(c) Eight years with the first reserve and eight with the second, making a total of thirty-one years' service, after which the man should be entitled to his pension.

(a) Yes.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

(b) The pay of the first class, Rs. 3 a month. That of the second class, Rs. 3.

(c) Five years in each.

Major A. R. Heyland, 1st Bombay Light Cavalry.

(a) No; not at present, nor until the success of one class of reserve be ascertained.

20. What percentage, if any, would you propose to retain for long service with the colors; and what should be the limit of that service?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I would keep all cavalry soldiers 14 years with the regiment, supposing them to be enlisted at 18; but I should prefer their being enlisted at 17, as they are generally in the riding school and drills for the best part of a year, and the younger they enlist the better riders they become; and enlisting very young they develop better on better feeding.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

I prefer the present system of entertaining men for service, with pensions after 15 years if physically unfit.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

I would keep all good soldiers with the colors till they have earned their pension. Good men should not be drafted away from their regiments who are willing to remain.

As I have before stated, the ranks of the reserve would probably be soon filled up by excellent soldiers, whose private affairs often cause them to leave their regiments after short service.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

No sowars should be retained after 14 years' service with the column. Non-commissioned officers should be permitted to remain up to 20 years, and commissioned officers up to 25 years' service, after which periods they should in all cases be passed into the reserve to complete their service for pension.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

There are some sowars who at 12 years' service are in their prime, and whom it would be a pity to lose. They should be kept for promotion. But these should not exceed 10 per cent.; and their long service should not exceed that permitted to non-commissioned officers, which would, I think, be advisedly fixed as under—with service troops 18 years, with reserve 14 years.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Under the system I propose, those men would serve continuously with the colors who had not volunteered, or had not been sent to the reserve for three years.

Colonel T. J. Kennedy, 2nd Punjab Cavalry.

I am not sure that I understand this question. I would retain the whole of the first reserve for service with the colors until pensioned, or transferred to the second class if such is formed.

Lieutenant-Colonel C. La Touche, Commanding Poona Horse.

I think that if 15 years was fixed as the period to serve with the colors, it would be unnecessary to retain any of the men for long service. The only exception I would make would be in the case of exceptionally valuable non-commissioned officers and very special cases amongst soldiers, which should be brought forward as they occurred on their own merits.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

I would be inclined to have the percentage subject to the wishes of the men, their health, character, and the opinions of the commandant and the medical officer; but I would limit that service to 15 years, except in the case of non-commissioned officers, when they might be kept on till 20 years' service.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Two-thirds of the present army with the colors, one-third with the reserve; the limit to the total service in both being as at present until they can claim pension after 32 years' service, or as soon as they are found unfit for further service.

21. How many days' training a year should he have?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

One month, I think.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Replied to in answer 16.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

Thirty days' training per annum would be sufficient, and at such seasons when the claims of agriculture are least pressing.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Thirty days would be quite sufficient, during which time and whenever called out he should get full pay.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

I think the reserve men should be called out every other year at least, if not every year. They should be put through riding school, musketry course, field movements, and outpost duty. These cannot well be done, even by well-trained soldiers, under two months. The reserve should have no holidays while in training. The service troop men might be allowed liberal leave, so as to make room for the reserve men in the lines.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

He should have three weeks' training, receiving full pay for the time. Regimental head-quarters would be the most preferable place for the men to assemble. Any man absenting himself should be discharged, unless he produces a medical certificate. They should be thoroughly inspected, and men and horses unfit should be dealt with as those with the regiment.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

During the whole or part of December and January of each year,—the universally acknowledged leisure time of farmers in India.

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

A month's training at such a season as would interfere as little as possible with agricultural pursuits.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Thirty days' actual drill. I think his travelling expenses to and from the head-quarters of his regiment should be defrayed by Government.

Major A. R. Heyland, 1st Bombay Light Cavalry.

A few days after every quarterly muster in the cold season.

22. Where should the arms, clothing, and equipment of the reserve man be kept?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

The arms should be left with the nearest military post, but the equipment should, with the clothing, be kept by reserve men.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Replied to in answer 16. Carbine with his regiment; the rest in his own keeping.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

At the reserve centre of the district.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

His clothing and equipment he should take away with him and be made personally responsible for.

His arms should be lodged, under British custody, at the nearest available point to the local regimental head-quarters.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

The clothing should be with the men at their homes; the arms and accoutrements at regimental head-quarters. Government would have to build good store-rooms for their reception.

They should be lodged in the regimental store-room, or in an arsenal, should there be one at his station, and given out when the men assemble for drill or service.

Of arms, the man should himself keep a spear and a sword, in the practice and use of which he should perfect himself, and keep himself so. His carbine to be kept at his training station, and a portion of the two months (or less) named be devoted to musketry.

Of clothing, the man should himself keep up the turban, *kummar-bund*; and summer uniform of his regiment (he can always wear any amount of underclothing for winter), and riding boots or ankle boots or Native shoes and *puttees* and spurs, and keep himself and his horse equipped efficiently without reference to his regimental pattern.

At regimental head-quarters, provided permanent head-quarters for each regiment was determined on; otherwise at the head-quarters of the division in which the regiment might be serving. In the former case it would be necessary to have some public building for their safe custody, and a couple of lascars to look after them. The only danger of the regimental system would be the chance of the arms in the event of a mutiny being seized; but if the ammunition was kept in the Government arsenal, the evil effects of this would be reduced to a minimum.

The arms, clothing, and equipment are the property of the men (excepting the carbine) in the Sind Horse. During the five years they are in the first reserve these might be kept at the head-quarters of the regiment. After they pass into the second reserve they should be kept at the garrison, where the men would have to perform garrison duty. When the men obtain their pensions, these articles should be priced by a board, and the adjudicated value paid to them, as is now the custom on men being invalided or taking their pensions.

Arms, saddlery, and accoutrements at regimental stores, either head-quarter or detachment; and clothing kept by reserve man.

23. Have you any suggestions to offer as to the employment of the reserve men in the police, or in other posts under the civil administration?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

I think it would be an advantage if reserve men were employed by the police, provided they were entertained on condition of their being at liberty to fulfil their reserve conditions. Employment under the Government in any capacity, I think, would be an advantage, provided they are at once set free when required for reserve duties.

Most cavalry soldiers are raised from the agricultural classes, and the reserve men would naturally be living at their villages, farming. If they could be utilized in some way as village police, or on duties that would not call them away from their agricultural labors, it would make the system less costly, and would not be repugnant to the men.

No; I do not think it advisable. The reserve men should know and feel they are essentially soldiers.

Should, however, a second class reserve be eventually decided on, these men might be made available for civil or police duties.

The employment of reserve men under Government in civil capacities would be found to be inconvenient, as a sudden call for their military services would throw civil business out of gear.

If the silledar system be retained, the only possible way of forming a reserve is to draft the reserve man into the police, and let him go, arms, horse, and all. But even this is not practicable to any great extent, as the number of mounted police is small, and no great reserve could find employment in it. Moreover, on the reserve being called out, the mounted police would vanish. Under the system which I will hereafter submit, reserve men might to a certain extent find places as either mounted or foot policemen.

Appointments as *chuprassis* to civil and military offices might be exclusively retained for reserve men, or for soldiers of over 15 years' service of good character, who, though still strong, had lost nerve, &c. After 10 or 15 years in latter capacity they would receive their military pension.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

Lieutenant-Colonel C. La
Touche, Commanding Poona
Horse.

Lieutenant-Colonel J. H. P.
Malcolmson, Commanding 3rd
Sind Horse.

Major A. R. Heyland, 1st Bom-
bay Light Cavalry.

No ; I have none. I am afraid it would not do. The civil authorities would not like the men going away for three weeks every year, or to join their regiments in time of war or popular disturbances. They would be much hampered by the men all leaving and at the same time.

I think this might lower the desirable tone of the reserve, and it might on a sudden call withdraw all the police, &c., from a district. I would at first, whilst the reserve is an experiment, keep it for its own purpose alone.

I would have the entire rank and file of the police force composed of old soldiers. When a man's time arrived for being drafted into the reserve, I should give him the option of joining the police, Government thus saving his reserve pay. I would also allow men of good character to join the police at their own request before their time for the reserve had arrived, provided there were any vacancies for them. Old cavalry soldiers should be drafted into the mounted police. I would also hold out encouragement to old soldiers to qualify themselves for posts in civil administration, and make a point of giving them the preference, provided they were men of good character and were fitted for the work required of them. I think measures of this kind would tend to make the reserve system much more popular than it would otherwise be ; and I am an advocate for introducing them to the fullest extent. I would even utilize the services of pensioners to fill the positions of chuprassis, who occupy such a prominent position in the establishment of civil officers.

I do not think it would be advisable to employ them in any department where their withdrawal for active service, to which they are liable in the first reserve, would throw that department out of gear. During their five years in the second reserve they might be employed as police chuprassis and other similar positions, when their pay would thus be saved to the military expenditure ; and it would be an inducement to men to enter the service with the certainty that, if well behaved, they would be considered to have a prior claim over candidates who had never served. I think the employment of old soldiers in this way would make the service far more popular than it is.

Any half-pay reserve man should be allowed to accept, with permission, any employment suitable to his rank which would admit of his quarterly mustering and drilling, or of his joining his depot or regiment during war.

24. Where should the reserve man undergo his annual training ?

Colonel -O. Wilkinson, Com-
manding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

Colonel Hugh Gough, Com-
manding 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating
Commandant 10th (Duke of Cam-
bridge's Own) Bengal Lancers.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

At the nearest military post.

Replied to in answer 16—with the nearest cavalry regiment.

At the reserve centre of his district, unless his regimental head-quarters are stationed there, where of course he would join for his annual training.

He should undergo it at the head-quarters of his original or line regiment.

Beyond any doubt at the head-quarters of his own regiment. All reserves should be strictly regimental ; but men might be exchanged of course from one regiment to another, as at present.

The place of rendezvous to be fixed by commanding officers—either regimental head-quarters or some other convenient central place. Regimental head-quarters are preferable. Should the place fixed not be at head-quarters, an officer of experience, not under a squadron commander, to be sent to inspect and drill them, accompanied by assistant drill instructors. If the regimental medical officer could be spared to inspect the men, so much the better ; otherwise some other medical officer near at hand should inspect each man carefully and report to the commanding officer. The commanding officer might himself go if he could be spared.

This might be left optional with the man, as an experiment. He might prefer to join his former regiment, or he might wish to join a party of reserve men of his village or district to some particular training station ; or he might, and probably would, prefer joining the training station nearest to his home.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

Lieutenant-Colonel C. La Tonche, Commanding Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

With the head-quarters of his regiment, if possible.

While in the first reserve, with the head-quarters of his regiment; while in the second, at that station where his services would be required for garrison duties.

With his regiment, or with a detachment of his regiment in the cavalry and in local corps; or in the infantry, with the nearest regiment or detachment of a regiment belonging to the same presidency.

25. Would the reserve system be popular with the Native army?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Captain A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

I think the reserve system would be popular with the Native army, if the men are fairly remunerated for their services.

If fair terms were given, I have no doubt it would be popular; but I don't see any, or at least very small, advantage in keeping up a cavalry reserve, unless horses are maintained.

Yes, I think it would; but as Natives, and especially Native soldiers, are apt to look doubtfully at least on all changes, should recommend the reserve system being only gradually applied; and at first to only such an extent as the exigencies of the State may require in completing regiments to service strength on necessity until it is seen how the system works.

I have often conversed with Native soldiery on the subject of localization of regiments with reserves; and have met with universal expressions of hope that such a system might one day be adopted. There can be no question of its popularity.

I think so, but am not positive. The best soldiers would wish to stay on for promotion; and these I propose to allow to do so. With great numbers, more especially landowners, it would be highly popular.

Note.—It would be a good plan to draft proposed rules for reserve and pension, and to submit it to commanding officers for consideration, together with intelligent Native officers.

Only if highly paid: *vide* answer 16.

I do not think so.

I am given to understand that it would be very popular, and that half the regiment would volunteer to get Rs. 5 net pay and do nothing, rather than Rs. 9-6 with regimental duty. I sometimes think it would even be popular if Rs. 4 only were given in addition to good-conduct pay.

It would be popular with owners of land (and they alone are to be thought of on the pay proposed), because a soldier then would return to his home in mid-life instead of the broken or old man he is at present on his return.

The majority of those accepting the service would be Jats, Sikhs, and Hindustani Rajputs. The system should be that of Runjeet Singh's gorchurras, who at short notice would join the Maharaja's standard mounted, armed, equipped, and provided with carriage for their own requirements.

Let those be the chief conditions, and their fulfilment on his pay the man's own arrangement and responsibility, subject to judicious inspections. Then let the question of pay be carefully gone into, in consultation with good soldiers who appreciate the scheme; and let the pay be fixed with reference to the smallest amount of acreage that will admit of the conditions without pinching the man in the worst seasons. I think men would prefer, when called out for service, to join if possible their own regiments, where they are known; and I refer to this belief in my mention in answers 2 and 11 of a regiment's own reserve.

On a man's application for transfer to the reserve, his statement of his land possessions should be verified.

There should be as few additional conditions as possible; and I would have no accounts with a reserve man beyond that of his pay.

A staff of British officers to inspect, train, and pay the reserve might be desirable. There may or may not be a sufficient number of large landowners in the army to accept the conditions on less pay than I have stated.

My regiment would, I think, supply some 80 men on the terms stated; and if this is a fair average, 25 regiments would give 2,000 men, or say one troop per regiment.

When called out on service, the reserve should receive the full pay of the rank in which they left their regiment; and the same might perhaps be granted during training.

Colonel J. Blair, F.C., Commandant 1st Bombay Lancers.

I do not think it would; for Native officers and men generally after a lengthened period of service look forward to settling down in their own country, buying fields, and turning agriculturists.

Lieutenant-Colonel C. LaTouche,
Commanding Poona Horse.

This at present must be more or less a matter of speculation. My own opinion is, that at first candidates for the rank might be a little suspicious, but that eventually, when they found that the alternative of enlisting under the new condition of service was to abandon all ideas of a military career, recruits would be as abundant as they are now.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

I think so, if the pay and advantages suggested be secured them.

26. Have you any suggestions to make regarding the Native army which would increase its efficiency while diminishing expenditure, or at least without adding to it?

Colonel O. Wilkinson, Com-
manding 2nd Bengal Cavalry.

I certainly have no suggestion to make regarding the Native army which would increase its efficiency whilst diminishing expenditure. I know, if my own views were adopted, they would involve heavy expenditure.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

I think the present Native army a very efficient machine, and that it would be difficult to improve it without adding to its expense. I mean particularly as regards its regimental organization; but I believe much might be done in the way of improving commissariat department and reducing expenditure, because it seems evident contractors make large sums in a very short time; and this might be saved to Government by good management.

Colonel Hugh Gough, Com-
manding 12th Bengal Cavalry.

I am not prepared to offer any detailed scheme on this subject.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

I have no suggestions to make which do not involve a complete change of the present organization to one of localized troops with reserve. Such a system would diminish expenditure, while it would in many ways increase efficiency. Better recruits would be obtained; local horse-breeding operations could be encouraged; *esprit de corps* would be fostered. It would be possible to organize an economical and efficient system of regimental transport. Drill and general instruction would go on systematically and continuously, instead of spasmodically; and the conditions most favorable for the loyalty and contentment of the Native soldiery would be attained.

Major O. Barnes, Officiating
Commandant 10th (Duke of
Cambridge's Own) Bengal Lancers.

Yes; I have done so in a separate paper, subjoined:—

I have said that the silledar system is almost, if not quite, a bar to the formation of a reserve for the Native cavalry; and I have given my reasons for this. It is, moreover, in some respects very expensive. It has of course the very great advantage of making the Native cavalry independent, and saving Government a vast amount of trouble; but I think the suggestions offered below, while diminishing the expense, will impose no extra work on Government servants, and will make a regiment more efficient. The reason why the silledar system is expensive is this—Government looks on the man and his horse as one unit; they are never separated. Now men will fall sick; they require leave and furlough; they get detached from the regiment for a time, longer or shorter; they take dismounted duty, &c. All these men have no need of horses; and in fact the care of horses of such men is an absolute nuisance in a regiment. The animals stand in the lines doing nothing. I wish to save the expense of this; and I think the following will do it.

In the first place, abolish the silledar system. Government would have to repay the men the value of their horses, saddlery, and stable gear, which would be a considerable outlay at first; but this is the only drawback I know to the scheme. In peace time sowars would be well with 80 per cent. or less of their own strength in horses, and in war with 90 per cent. I do not propose to throw the burden of feeding, accoutring, and tending the horses on Government, nor of purchasing the horses. The whole should be managed regimentally, as at present. The allowance at present paid to the sowar for purchasing, feeding, and clothing his horse, and making and repairing saddlery, should be drawn and formed into a fund, which should be administered regimentally. The men's pay would be kept in reality as at present. A sowar's pay is made up of the following items:—

					Rs.	A.	P.
Horse allowance	...	...	...	...	15	0	0
Chanda	...	...	...	...	2	0	0
Shoeing and medicine	...	...	...	...	0	10	0
Pay	...	...	...	...	9	6	0
					27	0	0

I propose then that a sowar should draw Rs. 9-8 monthly, supplying himself with clothing and arms only.

Rs. 15-10 should be passed monthly for each horse maintained in the regiment; and with this sum he should be fed, clothed, and shod, and the saddler maintained, as at present.

The two rupees for chanda would be passed into the remount fund, the regiment drawing nothing from Government for horses purchased. By this scheme no extra charge whatever is made against the Government, while idle horses do not exist, and of course are not paid for.

The following tables show the cost (A) of a regiment as at present constituted, (B) of one as proposed on a peace footing, (C) of the same on a war footing, (D) of the reserve :—

A.

Regiment as at present constituted.

BRITISH OFFICERS.

				Rs.	Rs.
1	Commandant, lieutenant-colonel	...	...	1,528	
1	Squadron commander (major)	...	...	940	
1	" " (major)	...	...	850	
1	" " (capt.)	...	...	554	
1	Squadron officer (capt.)	...	...	524	
1	Adjutant (lieut.)	...	...	525	
1	Squadron officer (licut.)	...	...	375	
1	Medical officer, surgeon-major	...	...	890	
					6,186

8

NATIVE OFFICERS.

1	Ressaldar	...	...	...	300
1	"	...	...	...	250
1	"	...	...	...	200
1	Ressaidar	...	...	...	150
1	"	...	...	...	135
1	"	...	...	...	120
2	Jemadars, at Rs. 80	...	...	...	160
2	" at " 70	...	...	...	140
2	" at " 60	...	...	...	120
1	Woordie-major...	...	...	...	150
					1,725

NON-COMMISSIONED OFFICERS AND MEN.

54	Duffadars, at Rs. 38	...	...	...	2,052
6	Trumpeters, at " 34	...	...	...	204
384	Sowars, at " 27	...	...	...	10,368
					12,624

457

Total cost ... 20,535

In this table, counted as fighting men, are the following really non-combatants :—

- 1 Salutrie (duffadar).
- 2 Schoolmasters (sowars).
- 6 Camel sowars.
- 9 Farriers (sowars).

18 men in all, who are useless as soldiers.

B.

Cost of proposed regiment on peace footing.

BRITISH OFFICERS.

		Rs.	Rs.
1	Commandant (lieut.-col.)	...	1,528
1	Second-in-command (major)	...	940
3	Squadron commanders—	Rs.	
1	Major	...	610
2	Captains	...	748
3	Staff allowance at	...	600
	Rs. 200	...	1,968
3	Squadron subalterns 225 + 150	...	
	x 8 = 1,125	...	1,125
1	Adjutant (lieut.)	...	525
1	Medical officer	...	890
1	(Staff officer) say	...	600
			7,596

11

NATIVE OFFICERS.

13	Same as in table A. (including)		
	horse allowance) ...		1,725

NON-COMMISSIONED OFFICERS AND MEN.

1	Duffadar-major	Rs. 40-0	Ks. 40-0
1	Quartermaster duffa-		
	dar	35-0	" 35-0
6	Koto duffadars at	20-8	" 123-0
19	Duffadars at	20-8	" 389-8
21	Naib duffadars at	16-8	" 346-8
6	Trumpeters at	16-8	" 99-0
			1,033

HORSES FOR NON-COMMISSIONED OFFICERS.

		Rs.	Rs.
54	As above at	Rs. 17-10	952
	per mensem		1,985
270	Sowars, at	" 9-8	2,565
6	Camel sowars with		
	camel, at	" 20-0	120
1	Salutrie	...	25
9	Farriers, at	" 10-0	90
216	{ 80 per cent. of horses per		2,800
	sowars.		
	{ Horses, at Rs. 17-10 each }		3,707
			6,507

TOTAL STRENGTH OF CORPS.

British officers	...	11
Native officers	...	12
Non-commissioned officers	...	54
Rank and file	...	286
		353
		with 283 horses = 17,813

51

In the foregoing tables I have not taken into consideration allowances, nor hospital and other establishments, which would be the same in all cases.

C.

Cost of a regiment on a war footing.

	Rs.
Peace footing as in table B ...	17,813
Men called in from the reserve as under—	
1 British officer (lieut.) 225+150 ...	375
NATIVE OFFICERS.	
	Rs.
1 Ressaldar ...	120
1 Jemadar ...	60
	180
NON-COMMISSIONED OFFICERS AND MEN FOR DEPÔT.	
1 Kote-duffadar (including allowance) ...	Rs. 29-8
1 Trumpeter ...	16-8
2 Farriers, at Rs. 10 ...	20-0
	651
NON-COMMISSIONED OFFICERS AND MEN FOR SERVICE.	
	Rs.
6 Duffadars, at ...	Rs. 20-8
12 Naib duffadars, at ...	16-8
174 Sowars, at ...	9-8
3 Farriers, at ...	10-0
	2,004
194 Mounted men, 90 per cent. horses, say 175.	
175 horses at Rs. 17-10 ...	3,140
Add increase of horses from 80 per cent. peace to 90 per cent. war establishment.	476
Difference between 216 and 243=27 :	
27 horses at Rs. 17-10	
	24,639

Total war strength would be—
12 British officers.

The cost when called out for training would be as under:—

	Rs.
1 Ressaldar ...	120
1 Jemadar ...	60
1 Kote-duffadar ...	29-8
6 Duffadars, at Rs. 20-8 ...	123
12 Naib-duffadars, at Rs. 16-8 ...	198
1 Trumpeter ...	16-8
174 Sowars ...	1,653
2 Farriers ...	50
12 Lascars ...	60
	2,310

The cost of a regiment as proposed, compared with one as at present constituted, is then as follows:—

	Rs.
Present system, monthly ...	20,535
Proposed system—	
Peace footing ...	
when reserve not called out for training ...	17,813
when reserve is called out for training ...	716
War footing—The whole called out and mounted ...	24,639
To appreciate these figures the strength of the two systems must be shown:—	
Present system { British ranks ...	8
{ Native ...	457
	465
Proposed system { British ...	12
{ Native ...	554
	566

Thus we arrive at the desired result. We have a regiment capable of being reduced during peace time to the lowest scale at which garrison duties can be carried on, and of being raised at once on war breaking out to 100 in excess of present invariable strength. The British officers have been

15 Native	...	} 554 Native.
74 Non-commissioned officers	...	
and trumpeters	...	
465 rank and file	...	
<hr/>		
485 horses exclusive of Native officers' horses.		

D.

Showing cost of reserve in peace time while not called out for training.

	Rs.	Rs.
1 Ressaldar ...	20	20
1 Jemadar ...	10	10
1 Kote-duffadar ...	7	7
6 Duffadars at ...	5	30
12 Naib-duffadars at ...	4	48
1 Trumpeter ...	4	4
179 { 174 Sowars ...		at 3 monthly 537
5 Farriers ...		
		656

To this would have to be added the cost of an establishment for the cleaning of arms and saddlery of reserve men with the head-quarters, say two men at 5 each per troop—

12 Lascars at Rs. 5	...	60
Total monthly cost	...	716

The following tables show the cost (A) of a regiment as at present constituted, (B) of one as proposed on a peace footing, (C) of the same on a war footing, (D) of the reserve:—

A.

Regiment as at present constituted.

BRITISH OFFICERS.

				Rs.	Rs.
1	Commandant, lieutenant-colonel	...	...	1,528	
1	Squadron commander (major)	...	...	940	
1	" " (major)	...	...	850	
1	" " (capt.)	...	...	554	
1	Squadron officer (capt.)	...	...	524	
1	Adjutant (lieut.)	...	...	525	
1	Squadron officer (lieut.)	...	...	375	
1	Medical officer, surgeon-major	...	...	890	
					6,186
8					

NATIVE OFFICERS.

1	Ressaldar	...	...	...	800
1	"	...	...	...	250
1	"	...	...	...	200
1	Ressaidar	...	...	...	150
1	"	...	...	...	135
1	"	...	...	...	120
2	Jemadars, at Rs. 80	...	...	...	160
2	" at " 70	140
2	" at " 60	120
1	Woordie-major...	150
					1,725

NON-COMMISSIONED OFFICERS AND MEN.

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6	Trumpeters, at " 34	204
384	Sowars, at " 27	10,368
					12,624
457					

Total cost ... 20,535

In this table, counted as fighting men, are the following really non-combatants:—

- 1 Salutrie (duffadar).
- 2 Schoolmasters (sowars).
- 6 Camel sowars.
- 9 Farriers (sowars).

18 men in all, who are useless as soldiers.

B.

Cost of proposed regiment on peace footing.

BRITISH OFFICERS.

		Rs.	Rs.
1	Commandant (lieut.-col.)	...	1,528
1	Second-in-command (major)	...	940
3	Squadron commanders—	Rs.	
1	Major	...	610
2	Captains	...	748
3	Staff allowance at Rs. 200	...	600
			1,938
3	Squadron subalterns 225 + 150	...	
		× 3 =	1,125
1	Adjutant (lieut.)	...	525
1	Medical officer	...	890
1	(Staff officer) say	...	600
			7,596
11			

NATIVE OFFICERS.

13	Same as in table A (including horse allowance)	...	1,725
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NON-COMMISSIONED OFFICERS AND MEN.

1	Duffadar-major	...	Rs. 40-0	Rs. 40-0
1	Quartermaster duffadar	...	35-0	35-0
6	Kote duffadars at	...	20-8	123-0
19	Duffadars at	...	20-8	389-8
21	Naib duffadars at	...	16-8	346-8
6	Trumpeters at	...	16-8	99-0
				1,033
54				

HORSES FOR NON-COMMISSIONED OFFICERS.

		Rs.	Rs.
54	As above at per mensem	Rs. 17-10	952
			1,985
270	Sowars, at	" 9-8	2,565
6	Camel sowars with camel, at	" 20-0	120
1	Salutrie	...	25
9	Farriers, at	" 10-0	90
216	{ 80 per cent. of horses per sowars.		2,800
		{ Horses, at Rs. 17-10 each	3,707
			6,507

TOTAL STRENGTH OF CORPS.

British officers	...	11
Native officers	...	12
Non-commissioned officers	...	54
Rank and file	...	286
		353
		with 283 horses = 17,813

In the foregoing tables I have not taken into consideration allowances, nor hospital and other establishments, which would be the same in all cases.

C.

Cost of a regiment on a war footing.

	Rs.	
Peace footing as in table B	... 17,813	
Men called in from the reserve as under—		
1 British officer (lieut.) 225+150	... 375	
NATIVE OFFICERS.		
	Rs.	
1 Ressaldar	... 120	
1 Jemadar	... 60	
	180	
NON-COMMISSIONED OFFICERS AND MEN FOR DEPÔT.		
1 Kote-duffadar (including allowance)	... Rs. 29-8	
1 Trumpeter	... „ 16-8	
2 Farriers, at Rs. 10	... „ 20-0	
	651	
NON-COMMISSIONED OFFICERS AND MEN FOR SERVICE.		
	Rs.	
6 Duffadars, at	... Rs. 20-8	123
12 Naib duffadars, at...	„ 16-8	198
174 Sowars, at	... „ 9-8	1,653
8 Farriers, at	... „ 10-0	80
	2,004	
194 Mounted men, 90 per cent. horses, say 175.		
175 horses at Rs. 17-10	... 3,140	
Add increase of horses from 80 per cent. peace to 90 per cent. war establishment.		
Difference between 216 and 243=27 :		
27 horses at Rs. 17-10	476	
	24,639	
Total war strength would be—		
12 British officers.		

The cost when called out for training would be as under:—

	Rs.	
1 Ressaldar	... 120	
1 Jemadar	... 60	
1 Kote-duffadar	... 29-8	
6 Duffadars, at Rs. 20-8	... 123	
12 Naib-duffadars, at Rs. 16-8	... 198	
1 Trumpeter	... 16-8	
174 Sowars	... 1,653	
2 Farriers	... 50	
12 Lascars	... 60	
	2,310	

The cost of a regiment as proposed, compared with one as at present constituted, is then as follows:—

Present system, monthly	... 20,535	
Proposed system—		
Peace footing ...	<div> <div>when reserve not called out for training ... 17,813</div> <div>when reserve is called out for training ... 2,310</div> </div>	18,529
War footing—The whole called out and mounted	24,639	
To appreciate these figures the strength of the two systems must be shown:—		
Present system	<div>British ranks ... 8</div> <div>Native ... 457</div>	465
Proposed system	<div>British ... 12</div> <div>Native ... 554</div>	566

Thus we arrive at the desired result. We have a regiment capable of being reduced during peace time to the lowest scale at which garrison duties can be carried on, and of being raised at once on war breaking out to 100 in excess of present invariable strength. The British officers have been

15 Native	...	} 554 Native.
74 Non-commissioned officers and trumpeters	...	
465 rank and file	...	

485 horses exclusive of Native officers' horses.

D.

Showing cost of reserve in peace time while not called out for training.

	Rs.	Rs.
1 Ressaldar	... 20	20
1 Jemadar	... 10	10
1 Kote-duffadar	... 7	7
6 Duffadars at	... 5	30
12 Naib-duffadars at	... 4	48
1 Trumpeter	... 4	4
179 { 174 Sowars	...	} at 8 monthly 537
5 Farriers	...	
		656

To this would have to be added the cost of an establishment for the cleaning of arms and saddlery of reserve men with the head-quarters, say two men at 5 each per troop—

12 Lascars at Rs. 5	... 60
Total monthly cost	... 716

increased in strength and efficiency, the drill of the regiment provided for better than at present, a monthly saving of Rs. 2,000 effected during peace and the non-training season, with a small saving when the whole corps is in training. In war time the 100 extra men are raised at a saving over the present cost.

			Rs. A.
Now each individual costs	...	...	44 2
As proposed he will cost monthly	...	...	43 8

In peace time the total cost of each individual will be reduced to Rs. 32-11.

These are the figures without altering the present ruling rates of pay; but I would advise the following slight increase. Sowar's pay from Rs. 9-6 to Rs. 10 monthly, and also the following allowances. In British regiments rough-riders and drill-masters are highly paid, but most unaccountably; in Native regiments they get nothing. Surely a man who helps to train the corps should get more than the man he trains. I think then the following staff allowances should be passed as a matter of justice:—

			Rs.
1 Drill-duffadar, monthly	...	...	8
3 Naib-duffadars, monthly	...	...	4 each
6 Sowars (1 from each troop), monthly	...	...	2 „

The total cost is only Rs. 32 monthly; and it is surely well earned by the men.

For the above scheme I think I may fairly claim many advantages; but no doubt the following are disadvantages:—

(1) The cost of taking over the horses, saddlery, &c., at once.

(2) The purchasing the 202 horses at the outbreak of a war.

Against the first, I urge the very considerable saving of expenditure and increase of efficiency.

Regarding the second, I would remark that there is no real difficulty in the matter. As all the horses of all the regiments would be Government property, and as all the regiments would not be ordered on service at the same time, the requisite number of horses might easily be drafted from one corps to another, the corps remaining behind providing horses at leisure. The 202 horses, whether bought by the corps going on service or by the corps which gave it its horses, would of course have to be paid for by Government, as no allowance for their purchase has been made. When peace is concluded, these horses would be at the disposal of Government, as they would not be required on a peace footing.

On a war over the frontier, such as in Abyssinia or at Malta, or lately in Afghanistan, accounts would be much simplified by Government feeding and clothing the horses (as practically it did on all the occasions quoted), and the Rs. 17-10 horse allowance not being drawn by the regiment.

The advantages of the system are that, on the proclamation of war, a war machine is set in motion, thoroughly in order in all its parts, without confusion and without trouble. Real soldiers take the place of raw recruits. For the proper working of this system, I think it, though not actually necessary, still highly to be desired, that the regiment should have a permanent head-quarters. The reserve men would then be called in without trouble, and would join in three days at the outside.

If a permanent head-quarter is not sanctioned, the trouble, expense, and loss incurred by moving the arms and accoutrements of the reserve would be great.

Another strong argument in favor of this proposal is the avoidance of the disgraceful arrangements at present ruling regarding the supply of grass to the Bengal cavalry in cantonments. I think I may safely say that in most stations the grass of the entire regiment is stolen.

Practically there are no rukhs; those I know are too far off to be of service, and the grass in them is worthless. The grass-cutters, therefore, steal the grass either off the highroad or from some zemindar's land. The incessant squabbles arising from this mode of obtaining supply are disgraceful. The horses, however, must be fed; and this is how they are fed. With a permanent head-quarter, a good rukh should be provided, which the corps should cultivate. A good supply of grass would then be easy. Moreover, stable-litter now wasted would be utilized; and a small stud or supply of remounts might be started.

If the class-regiment system were adopted, a little care would have to be taken that regiments stationed near each other were not of the same class, so as to avoid clashing of interests. Lahore, Sialkot, and Jhita, for instance, might have three different classes, and so on. I daresay that at first the system might not be so popular as the present silledar system. Men now, when supplies are cheap, make a good thing of the service—those at least who have the hard cash to pay down the cost of their assames; but those who have to borrow the money would find it better for to enter a corps where they have nothing to pay, even though the savings are much smaller. A local corps and a class corps would, I feel sure, in the long run be vastly more popular corps than the best silledar corps now existent. The men would always be near home, and would be saved the ruinous expense of marching and taking over land lines, &c., in exchange for good ones.

On war breaking out, say on the Khyber frontier, the working would be something as under.

It is not wise to employ Pathan against Pathan. Therefore a Pathan corps stationed at Rawal Pindi, say, will not be sent on service. A Ghakkar regiment from Jhelum will be ordered on service. The reserve will be called in; recruits will be left with the officers and men for their training at the regimental head-quarters, and the corps will at once march to Pesbawar. On arrival at Rawal Pindi, it will take over the required number of horses from the Pathan regiment and go on its way—a regiment of trained soldiers fitted for the country in which the war is to be waged. I see no reason why this should not all be done quietly and without confusion within a week.

The training of the recruits would not be interfered with, but would go on during the war at the permanent head-quarters. Every man with the regiment in the field would thus be available for soldier's work; and as vacancies took place they would be filled, as fast as men could be trained, from the dépôt.

Captain M. G. Gerard, 2nd
Central India Horse.

(a) As it is desirable to encourage retirement of sowars after 40 years of age, instead of seniority being considered a claim for promotion, no sowar to be eligible for it (rare exceptions admitted) after

15 years' service. Each man to be allowed to present himself for examination by his squadron officers, as detailed in reply 33.

(b) Should rank and file be increased, instead of increasing the number of duffadars, to give allowances for proficiency in riding, *nezabasi*, &c., open to all, and *re-awarded annually*. Native non-commissioned officers are slack disciplinarians, and the grade chiefly useful as a means of reward, and to provide for keeping of rosters, &c.

(c) Separate paper (A, B, C) furnished in accordance with paragraph 4 of circular.

Separate paper in accordance with paragraph 4 of Circular No. 32.

A.—CAVALRY CARBINES.

I beg to suggest that the new idea of arming all lancers with carbines is radically wrong; and that 50 per cent. carbines is ample for any cavalry.

1st.—Their dash is spoiled by attaching undue importance to firearms, either in their own or enemy's hands.

2nd.—It is seldom that even half a regiment should be dismounted, so as both lance and carbine have their opportunities, and *carried together unduly overload a sowar*: the proper armament should be front rank lance and revolver and rear rank carbine. This has been recently adopted for the Russian army. Sowars to be exercised, however, with both weapons; but target practice for lancers for short ranges only.

3rd.—Even if conditions of Continental warfare have so changed as to reduce the rôle of cavalry to that of mounted infantry—which, however, I do not admit—*here they have not yet altered*; and so long as they can face the fire of, and ride down, infantry, it would be the greatest mistake to employ cavalry otherwise. If storming a village or covering a retreat, you *must* have your horses properly protected, so that the only dismounted duties properly devolving on cavalry require from 25 to 40 per cent. carbines. The only moral effect of musketry-fire is the loss inflicted, while troops once broken by cavalry are utterly demoralized. Not only was this latter advantage gained in all our charges in the recent campaign, but the actual loss inflicted in a few minutes exceeded that of an entire day's rifle fire.

4th.—That firearms were employed almost exclusively by cavalry in the American and German wars is no argument that we should train our sowars so. The former not only were raw levies, and guiltless of swordsmanship, but such bad riders; they frequently dismounted to use their revolvers in the open. The German conscripts are as a rule poor horsemen, except the Poles, were never in the saddle before joining; they have a blunt steel-sabarded sword, and, like our English regiments, have (as one of our best writers on Native cavalry says) “mistaken the whole spirit of the lance which, used as they use it, is a plaything.” A large percentage of sowars are excellent riders, lance and swordsmen; but few are even average shots. A regiment of our men at loose practice would cut a German regiment to pieces, but would be easily beaten by them if they stopped to shoot.

5th.—It is waste of ammunition trying to train old lancer sowars, as we have to now.

6th.—Extra work and training with no gain to efficiency is given to all. Cavalry require a few picked shots only for long ranges.

B.—ARMY ORGANIZATION.

Our Native army being at present a safer offensive than defensive weapon, I would suggest that, without increased expenditure, and maintaining 180,000 in India, we might greatly strengthen our position as follows:—

1st.—Reduce our British forces to a local or at least long service corps of 50,000, without families, which are expensive encumbrances.

2nd.—Reduce the Native army to 90,000, composed solely of the warlike races.

3rd.—Replace above reductions by 40,000 Chinese, non-Mussulman, Africans, or similar foreigners.

4th.—Form infantry into three battalion regiments of mixed races (cavalry similarly) on the class company system, *e.g.*, 1st Battalion British, 2nd Chinese, 3rd Sikhs—officers of all three on the one cadre; battalions to be kept together as much as possible, and *regimental esprit de corps* and *camaraderie* promoted by every possible means. All officers in first instance would join British battalion.

The objection to above that would be raised is that we are too openly showing distrust of our subjects; but it is no more so than restricting the armaments of Native States, and it is useless to shut our eyes to the fact that our Native army is a purely mercenary one, who, if assured of equal advantages, would as readily take service with Native princes or others. In addition to the problem of religious fanaticism, past history shows that Indian mercenary armies, in contradistinction to national ones, after defeat, would readily accept terms and transfer their services to the winning side.

Scindia's regular troops (whom so many regard as a menace) are almost to a man our own subjects from Oudh, Furruckabad, &c.; and our Deccan districts supply him with his much-trusted Mahratta artillerymen. On the other hand, his *Paigah* and *Gol* irregulars, his own subjects, if only money were forthcoming, would readily desert him in difficulties for his hereditary enemies, the Rajput descendants of their rulers of last century, the chiefs of Ragoghur, Perone, Sheopore, Barode, &c.

C.—REDUCTION OF CORRESPONDENCE, &c.

I would further venture to suggest that a great portion of correspondence and returns might be done away with, with a positive gain to the public service; and that if, instead of each petty item being checked, and each monthly pay sheet being examined in detail, merely a sufficient staff to do this occasionally and at uncertain intervals were maintained, and officers shown that Government trusted to their honor, a great pecuniary saving would result.

A modified form of the old contract system might also with advantage be reintroduced, with this essential difference, that, whilst the sum allowed, say, for line-gear with artillery, was never to be exceeded, that the surplus, if any, was to be recredited to Government, and not, as formerly, revert to the commanding officer.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

The one great thing that is required to increase the efficiency of a cavalry regiment is mule carriage for the ammunition, or for a portion of it (*vide* answer 17, Transport). The next thing is camp equipage for kahars, bhistics, sweepers, surwans, mule syces, &c., &c. I understand that Brigadier-General Macpherson made up for his brigade in the Khyber some excellent tents of khaki-dyed drill, weight 20 lbs., and accommodating four men (or six on an emergency), i.e. about 4 lbs.; a man. They cost Rs. 12 each, and kept out the rain well.

Pensioners residing beyond the border should have to come in when a force is sent against their tribe.

Colonel T. G. Keonedy, 2nd
Punjab Cavalry.

None without some additional expenditure. Troop commanders in the Punjab cavalry keep two chargers each. Jemadars were at first under similar orders; but it has been found to press unfairly on their pay, so they were freed from the obligation.

On service inconvenience from this frequently arises; and the jemadar's services often cannot be dispensed with, and so he has to take a sowar's horse. It is recommended that on service extra horse allowance of Rs. 15 a month be sanctioned for jemadars on their providing themselves with a second charger.

Mules provided for the carriage of guard tents, ammunition, and hospital stores would add to the efficiency of a regiment.

Ponies are generally shared by two men. If each man had a pony to himself, whilst the number of ponies and syces would be doubled, there would be no need for camels and their attendants for the camp-equipage or baggage of the soldiers or syces of a cavalry regiment.

Colonel J. Blair, V.O., Com-
mandant 1st Bombay Lancers.

If regiments were localized, it would be a great saving to the State and the men.

Lieutenant-Colonel C. La
Touche, Commanding Poona
Horse.

I think the efficiency of the Native army might be increased, but not without adding to the expenditure. As regards the cavalry, I consider the pay insufficient; and to make them as efficient as they are expected to be under existing circumstances, the horse allowance should be raised two and a half rupees, and the personal pay of each man below the grade of Native officer one and a half rupees. I think the system of reserves, and making use of old soldiers for the police and posts under civil administration, will materially reduce the expenditure; but I don't see how it will increase the efficiency of the army, though it may not diminish it.

Lieutenant-Colonel J. H. P.
Malcolmson, Commanding 3rd
Sind Horse.

I think the system of double-battalions on the same principle as I have suggested might with equal advantage be applied to the infantry; and the officers of the battalion going on service might be added to from the second battalion, who would be well known to the men, and familiar with all the interior economy of the corps, the places of these officers being filled up by drafting in young ones.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

Yes, as regards Bombay cavalry—

1st.—The abolition of bargheers, except as recruits, and in the case of Native officers who might be allowed one each, the complications, trouble, loss of efficiency, by allowing silledars two or three assamees, is considerable.

2nd.—By giving an inspector-general of Native cavalry, who with a staff officer and veterinary surgeon should be required to make minute inspections of each regiment, comparing different systems of interior economy with that of regiments of the other presidencies, which he should be required to visit and make himself acquainted with. Divisional inspecting general officers cannot, as a rule, if not of the cavalry themselves, be expected to know enough of Native cavalry to make their inspections sufficiently searching.

3rd.—It is believed that silledars of the cavalry are, as a rule, men of a little money. The men of the regiment in which I have served since 1865, *viz.*, the 1st Light Cavalry, have in most cases on enlistment no more real property than the rags in which they join. Their assamees are nearly always purchased with borrowed money, in defiance of orders and the principles of silledar regiments; and they are for the most part in debt from the day on which they become the nominal possessor of one, two, or three assamees, until the day they retire on pension. To meet this difficulty, as moneyed men are not to be obtained, I would suggest loans from the regimental fund without interest, repayable by small monthly instalments, to men of good character for purchase of assamees, and the price of assamees being *fixed*, and not that which is realized at auction.

4th.—By enlisting men for the Native cavalry on probation for one year; at the end of which time commanding officers to use their own discretion in retaining or dispensing with their services without reference to higher authority.

27. Would there be any advantage in changing the titles of Native commissioned officers from *ressaldar*, *ressaidar*, and *jemadar* to *Native captain* and *lieutenant*?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Captain A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. La Touche, Commanding Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Hayland, 1st Bombay Light Cavalry.

I do not think there would be any advantage in changing the titles of Native officers.

None.—On the contrary, whilst no advantage would be gained, the Native officers might get an exaggerated view of their positions, and there might be some awkwardness in their relations to subaltern officers.

I see no advantage whatever in such a change.

I should entirely reserve the English titles and rank for the British officers. The Native officer should invariably be subordinate to every British officer.

Were *Captain Shers Sing* and *Lieutenant Jones* in one regiment, the former might wonder why he should be asked to serve under the latter, his junior. Yet no commanding officer would do otherwise; and certainly no British officer would care to serve under a Native. The title therefore, if it does not carry with it authority, is incongruous.

Such a change would be in my opinion decidedly unpopular and useless.

None that I can see; but I think, as before mentioned, the rank of *ressaidar* should be abolished. It is not parallel with any rank in any arm of the British army or in the infantry of the Native army. *Ressaldar* and *ressaidar* do the same work exactly. Each commands a troop; and each should have the same rank.

As the idea is popular with the Native officers, it would be so far advantageous.

None whatever, but think the title of *ressaidar* might be dropped and the rank amalgamated into the *ressaldars*. Only two commissioned ranks, *viz.*, *ressaldar* and *jemadar*.

I see no advantage in it whatever.

I think it quite unnecessary, but I recommend that the rank of *ressaidar* be abolished, and that for the six troop commanders there be six grades of *ressaldar*, on the present pay of the existing three grades of *ressaldar* and three of *ressaidar*; for there is no difference in the duties of the two ranks.

No; I think nothing could be better than what it is at present.

I see no advantage in it whatever, unless accompanied with the pay and position of captain and lieutenant; otherwise it appears to me to be offering the shadow without the substance. I think Native officers of cavalry regiments are very well off.

No; I think it would be better to leave them as they are.

No; I am not aware of any advantage; and a probable disadvantage of so doing would be to give them an exaggerated idea of their importance and false ideas of their position.

28. Could the practice of appointing young Native gentlemen of good family to direct commissions be employed to a greater extent than at present?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

I would urge very strongly the practice of appointing young Natives of good family to direct commissions, and would extend the practice; but I should like to see these gentlemen brought up in a military institution established expressly for them. Of course, the numbers should be limited of these candidates, and only selected men admitted.

I have always been in favor of this practice to a very considerable extent, and have found it answer admirably, most of the direct appointments having given great satisfaction; and the rank and file appear more satisfied with the appointment of a Native gentleman of some position and influence of their own class to that of one from amongst themselves.

Colonel Hugh Gough, Com-
mandant 12th Bengal Cavalry.

I do not think there is any limit at present; but although there is plenty of inducement for young men of good family to come forward as candidates for direct commissions, there are not so many as one would expect, and those that do come forward are not always by any means young men who would suit the requirements of commanding officers.

A Native officer brought in by direct commission ought to be young and amenable. After a certain age, when their youth has been spent in idleness and dissipation, their military instincts are very inferior.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

I do not think it advisable to deprive deserving and intelligent soldiers of the prospect of promotion which they now have, and which is a very powerful incentive to good conduct and to professional study and improvement, by giving direct commissions to any large number of young Native gentlemen. If selections are judiciously and conscientiously made, there must nearly always be within a regiment individuals quite fit for promotion, and of such birth, character and general service as to be deserving of it.

Major O. Barnes, Officiating
Commandant 10th (Duke of Cam-
bridge's Own) Bengal Lancers.

I will preface my answer to this question by expressing my sincere hope that one of the results of the Army Commission will be the higher educational status of the Native officer. I believe there is not a regiment in the Native army in which some troop-commandant does not every month certify to the correctness of accounts and statements which might be honey-combed with errors for aught he knew. Great pains are taken to increase the knowledge of the British officer, and with great propriety; but the Native officer is frequently a totally unlettered man. He can't read a drill-book or an order; he is at the mercy of any man who can write—and this, I think, should not be. Surely there should be some examination for promotion.

In my own regiment we have established an educational test qualifying for promotion to the non-commissioned grades; but for the commissioned ranks there is no examination. It is my opinion that no man should become, under any circumstances whatever, a Native officer unless he is a thoroughly well educated man; and if there are such in the regiment, I think it unfair to bring in Native gentlemen from outside. I have never recommended Native gentlemen for promotion unless the required man has been found wanting in the corps. I think this rule should be adhered to. If you have a properly qualified man in the corps, never promote from outside. The qualification test for promotion to Native officer should be prescribed by army head-quarters, and not by regimental arrangement, as is the case for British officers in the British regiments and in the staff corps.

Captain M. G. Gerard, 2nd
Central India Horse.

Yes; full one-third of the commissions should be thus bestowed; appointments to be strictly probationary for first year. We have now four—two direct and two commissioned after a brief service in the ranks. Two of these are the very best and most trustworthy we have; the third fairly good, and the best rider in the commissioned ranks; and the fourth a probationer.

Captain A. H. S. Neill, Central
India Horse.

Yes, if such men can be found. But the candidate should first serve a term of probation, and eventually pass some examination before a general officer before receiving his commission.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

I think it might, and I think it would, be advisable. The plan that suggests itself to me is, that candidates should be sent to do duty as supernumeraries without pay for two years; and if reported well on by commanding officers, they should get a commission on a vacancy occurring. One promotion in three might be given to Native gentlemen and two to the regiment.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

I think not. The source should undoubtedly be kept open; but it is best to leave it to commanding officers to promote their own men with claims, or to apply for a Native gentleman.

Colonel J. Blair, V.O.,
Commanding 1st Bombay Lan-
cers.

I cannot speak from experience, as we have had no such appointments made in this regiment. But, I should say it could be done by making young Native gentlemen, who are aspirants for the cavalry branch of the service, undergo a regular examination, and for which purpose they should be sent to regiments.

Lieutenant-Colonel C. La
Touche, Commanding Poona
Horse.

I am very much opposed to any such system, as I consider it would be a great injustice to men who have served with distinction and credit in the regiment for years in the hopes of some day becoming Native officers. The great, indeed the only, inducement to recruits of a good stamp to enlist is the chance of some day obtaining a commission. Such prizes are few enough in a regiment, and to reduce the number would tend to disgust men of good family who now enlist, and to prevent them joining the service. The idea is, I know, in favor with some Native officers who have feathered their own nests in the British service,

and who are anxious to provide for relations and friends. In my opinion, a Native officer, who has commenced as a private soldier and has gone through all the successive grades, is much better suited for command than a wealthy zamindar, whose only claims are his wealth; and I think, moreover, that the former would command much more respect from the men. In my own regiment there has never been any difficulty in selecting from the ranks a highly intelligent and able body of Native officers to fill the commissioned ranks; and so long as the existing system continues to produce such satisfactory results, I should be very sorry indeed to be compelled to accept the services of wealthy outsiders.

I am not prepared to give a decided opinion on this point; but from the little experience I have had, and the little I have seen, I am not sure that young Native gentlemen could be so employed at present with advantage.

No. I believe we have few Native gentlemen, if any, in Bombay available for the army; and if there were any, admitting them would deprive good non-commissioned officers and men of their principal incentive to serve well and faithfully and to improvement in their profession.

Neither am I personally acquainted with any Native gentlemen who would receive more natural respect, or have more moral influence with those under them, than is given to, or possessed by, the ordinary Native officer who has risen from the ranks.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Captain. A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. LaTouche, Commandant Poona Horse.

29. Do you consider that the recruits obtained for your regiment are the best procurable of the class ordered? If not, what suggestions can you make for improving their quality?

I always encourage the enlistment of sons and nephews of pensioners and of men in the regiment; and can offer no suggestion or improvement on this plan, excepting that Native officers of known good family should be encouraged to bring recruits.

I think under the present system very good recruits can be obtained. I don't believe in any specific that would ensure the very best; it depends on those employed.

Undoubtedly they are the best procurable. Commanding officers would naturally see to this. Still there is more difficulty in obtaining recruits than formerly, especially in the Punjab; though not very materially so, at least in my experience.

The recruits, as a class, are very good; but this result is only attained by very careful selection, and by rejecting the greater number of those presenting themselves for enlistment. We would get the flower of the population if local class-regiments, with their own reserves, were organized.

I think the recruits we got are very good, and nothing is to be desired. But we have a troop of Dogras and a troop of Jats, which have always been difficult to fill—in fact never have been full—owing (a) to their having been grafted into the corps after formation, and (b) to there being no Native officers of these classes in the regiment.

Yes.—We always have far more eligible candidates than vacancies. There are now twelve or fifteen *umdaars* staying with relations in our lines awaiting possible vacancies. No roll is now kept, as men were apt to fancy that seniority of entry gave priority of claim.

Yes; the best procurable for the pay.

The recruits procured are very fair; but I think still better men would take service if a fixed dépôt or head-quarter was formed as suggested in answer 7.

Omitting the recruits recently entertained at the dépôt, whom I have not seen, I think those obtained are the best procurable.

The recruits enlisted, as a rule, are thin, meagre-looking on first arrival. The batch certainly this year has been very good; but we have had very great difficulty in obtaining the number required—men of poor means, as none are able to purchase *assamees*. They are chiefly agriculturists. I can suggest nothing but a wider area for recruiting purposes for improving their quality.

I have hitherto had no difficulty about getting recruits, who, as before explained, present themselves for enlistment without any action on

the part of the commanding officer; and they have been, with few exceptions, of an excellent class. I am of opinion, however, that the great difficulty of living on their existing pay will eventually cause a falling-off in the quality of the supply. The prices of gram and grass are now so high, and remounts so expensive, that the position of a sowar, so far as his finances are concerned, is not nearly so good now on Rs. 30 a month as it was 25 years ago on Rs. 20. A far higher standard of efficiency is, moreover, now required than was the case in the days of the old irregulars. It may be thought that the system of compensation for dearth of forage provides for the rise in prices; but this is not the case in the Bombay cavalry, inasmuch as the principle on which compensation is granted takes no account of the pay of the syce, and the purchase and keeping up of ponies. I think that if the financial position of the sowar is not improved, there will eventually be great difficulty in getting the good stamp of recruit which has always hitherto been the characteristic of the old irregular cavalry regiments. I am an advocate, so far as the cavalry are concerned, of granting great latitude to commanding officers in the selection of recruits. I think if tied down too much in the matter of locality and height, they would be very much hampered in their endeavours to keep up a good body of men. Young lads who are born-riders and have been in the saddle since childhood are the style of men for cavalry regiments; and such cannot be got if the commanding officer has to trust to such men as may be picked up here and there by recruiting parties, in particular localities, irrespective of the inhabitants of such localities being by their habits and traditions suited for the mounted branch of the service. The height now laid down, 5 feet 6 inches, as the standard for cavalry recruits is, in my opinion, a great mistake. It prevents commanding officers availing themselves of the services of excellent lads, who have been accustomed to riding since childhood. Big men are not required for our cavalry regiments; moreover the funds cannot afford to mount such. Five feet three inches should, in my opinion, be the standard height as heretofore.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

There is not the slightest difficulty in obtaining excellent recruits; but there is an order that sometimes has induced me to enlist inferior men; and that is—

When a man dies, his horse becomes riderless. Unless this vacancy is filled up in three months, the owner's horse allowance is retrenched by the paymaster; although the man is obliged to keep up his horse and everything else. Hence, rather than allow the man to be so heavy a loser for no reason whatever, I have often been less particular than I otherwise should have been. The remedy for this would be to allow the usual horse allowance to be drawn at the discretion of the commanding officer, as he is seen to fill up vacancies as quick as possible, and would have no reason for taking in an indifferent man.

I would also suggest that, under the circumstances, a regimental officer (European) should be allowed to go on recruiting duty once a year. By this means they would become known in the different districts; and recruiting parties sent under non-commissioned officers at other times would, I think, have a better class of men coming to them for enlistment, for I feel certain the European officer obtains better recruits than any one else.

Major A. R. Heyland, 1st Bombay Light Cavalry.

No; and I would suggest as a probable means of improvement in this—

1st.—Localization of Native cavalry regiments.

2nd.—Requiring from commanding officers more careful selection of Native officers, non-commissioned officers, and men for recruiting parties.

3rd.—Permission to enlist more foreigners.

4th.—And in the case of Mahrattas, class troops or companies commanded by Mahratta Native officers.

5th.—Probation for one year before being finally accepted.

30. Are you in favor of class-company regiments, class regiments, or mixed regiments?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

I think the present system of having regiments on different plans the best, though I should suppose a regiment of one class would be least complicated to command with impartiality.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

I am in favor of class *squadron* regiments; and my reason is that, in having three different classes, you have the full advantage which the mixture of classes in a regiment insures. Principally that it is very

improbable that they would combine in case of any agitation, and also that a wholesome emulation can be kept up; whilst by having class *squadrons* instead of troops, it would be much easier to recruit, and also to maintain the due proportion of Native officers and non-commissioned officers, in consequence of having a squadron to select from instead of a troop. In such case I would recommend my regiment to be composed of—

- 1 squadron Mahomedans,
- 1 squadron Sikhs,
- 1 squadron Jats;

and I am sure it would be found in many ways a better system than the present one of class troops.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

I have no personal experience of mixed regiments. As regards the other two, I think class-company or troop regiments are, politically speaking, the safest; and the system seems to work well.

Class regiments have certain advantages which would naturally recommend them to the preference of commanding officers. The fact of the men being all of one nationality would probably lead to a higher feeling of *esprit de corps*. Again there is no doubt whatever that in the matter of recruiting, class regiments much more readily would find men to fill up their ranks, and probably of a higher standard of their own class, than mixed regiments; and for the reserve system, class regiments would have the advantage of all their reserve men coming from the same district or province—men, too, who would probably be nearly all brought together at their annual training, and who would also all be more quickly collected at their reserve centre or dépôt when the emergency arose.

There are only three class regiments in the Bengal cavalry, *viz.*—
1st Bengal Cavalry (Hindustani Mahomedans).
14th Bengal Lancers (Jats).
15th Bengal Cavalry (Mooltanees).

Two or three more regiments of one nationality would be no disadvantage.

Lieutenant-Colonel A. R. D. Mackenzie, 8rd Bengal Cavalry.

I am very strongly in favor of regiments composed throughout of one class. The next best arrangement would be in a regiment of four squadrons for each wing of two squadrons to be formed of one class.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Certainly in favor of class regiments. We are unfortunately a class-troop regiment; and these are the disadvantages we find in it—

- (a) unjust promotion; a vacancy falls due in one class; the best man in that class is promoted, while older and better soldiers of other classes are passed over, and become subordinate to a man they should command;
- (b) clashing of interests of troops of different classes;
- (c) back-biting and unfriendliness of occasional individuals.

These are regimental grievances only; but the State difficulties become State dangers—

- (a) Few corps can be employed on service against any enemy or rebel without having in its ranks some clansmen of the men it is engaged against.
- (b) The compulsory fraternity of a regiment composed of hitherto antagonistic elements practically binds the great majority of the whole Native army into one organized mass; and combinations not only become possible, but easy. The class regiments are naturally happier homes to the men; and it is, or should be, the chief endeavour of all commanding officers to make their men happy. The class corps are, and must be, more popular. You promote your best men; you hear of no quarrels; you fear no fraternization with an enemy; you know your men have no fellow-feeling with other corps except of their own class; and, in consequence of the general well-being of the corps, a most valuable *esprit de corps* is fostered, which a class-troop regiment cannot possibly have.

Captain M. G. Gerard, 2nd Central India Horse.

Class-squadron regiments, for choice out of two former; on no account mixed regiments.

Captain A. H. S. Neill, Central India Horse.

Class-troop regiments.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

I am in favor of class regiments. The *esprit de corps* is greater, and the difficulties of arranging for cooking on boardship less; and when the coercion of tribes of one class was necessary, the regiments of another class could be employed.

In case of a rebellion the regiment whose head-quarters were in the disturbed district should be relieved by one of another class, and removed for the time being from the neighbourhood, for fear of its sympathies being with the insurgents.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

Altogether in favor of class troops; for I think their *name* as a class, either for conduct in quarters or in the field, is of more importance to them than that of a troop of a certain number. I mean "Shabash Pathan troop" is more telling than "Shabash 1st troop." And so with misconduct. A disgrace can be attached to a class when they are in troops that would not be applicable to one man of a class in a troop of mixed classes.

The men too prefer being in class troops. But I have had very little experience of any other constitution of a regiment. A class regiment (see answer 10), other than Pathans, would on this expedition have been helpless without an interpreter; and all Pathans might, under different circumstances than those met with, have been an anxiety.

Colonel J. Blair, v.c., Com-
mandant 1st Bombay Lancers.

I have had no experience in class regiments. I have, during the whole period of my service, been in regiments with mixed castes; and have found it to answer very well, more especially during the mutiny, when men of one caste were afraid of doing or saying anything wrong for fear of being found out and reported. It worked well then.

Lieutenant-Colonel C. LaTouche,
Commandant Poona Horse.

I am in favor of mixed regiments. I see no object in having class regiments or companies. Such a system appears to me to encourage class-prejudices, which should, in my opinion, in the military service be, as far as possible, ignored. As regards the argument that class regiments would enable the Government in case of a mutiny to put one set of regiments against another, I see no weight in it at all; for it assumes the impossibility of several classes rising against the Government at the same time. But even supposing that, in the case of class regiments, one set of regiments, by reason of class differences, would act as a check against another, this argument would tell in favor of the mixed regiment. For if a simultaneous combination of different castes was impossible, then a mixed regiment would be the very best security against a mutiny; for each regiment would contain within itself elements antagonistic to each other, and therefore a mutiny of a regiment would be an impossibility. Whereas if different castes were combined into different regiments, though one mass of men in one part of the country might be a useful check against another mass of men in a different part of the country, still there would be no internal influence to prevent a mass of any one particular caste rising, inasmuch as all the individuals of the various regiments composing such mass would be men of the same caste, and would be acting together. Thus, so far as I understand the matter, whilst this system of class regiments would, in the event of a mutiny, possibly furnish material from one part of the country to act against rebels in another, the mixed system would most probably prevent any rising at all. Another argument in favor of the mixed system is, that it enlarges the sphere for recruiting operations, which is a great advantage. In regiments where the class system has been in force for years, and has become a sort of tradition, I would not interfere with it; but I would strongly deprecate its wholesale introduction throughout the Native army. In short, in the mixed system, the antidote for a mutiny exists in the regiment itself; whereas in the class system it is outside the regiment.

Lieutenant-Colonel J. H. P.
Malcolmson, Commandant 3rd
Sind Horse.

I think the system adopted in the Sind Horse, of having all classes mixed up, merely allowing friends and relations to be in the same troop.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

In favor of mixed regiments in Bombay presidency, with one or two class troops or companies of Mahrattas, who are not procurable under present system, in quality and quantity, as they might and ought to be.

31. Is any arrangement possible by which Native officers of good family could bring recruits to a regiment, and maintain a certain periodical supply?

Colonel O. Wilkinson, Com-
manding 2nd Bengal Cavalry.

Here and there an officer of good family might arrange to bring recruits, but only, I think, a limited number; and I doubt it being possible to look for a periodical supply.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

No.—But a Native officer of good family and character, more particularly if connected with landed interests, is always useful in obtaining recruits. The *real* difficulty in getting cavalry recruits, and the *only* one, is the money. They all come with borrowed money; and the rate of interest charged by the money-lenders is so ruinous, that in times like the present, when everything is at almost famine prices, the recruit's balance of pay is often not sufficient to pay the interest on this debt. The only way at present of meeting this difficulty is obtaining an advance from the Government.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

Captain A. H. S. Neill, Central India Horse.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

meraries to the probable number of men about to be invalided be sanctioned from the 1st October of each year, being six months before the assembly of the invaliding committees, so that they may be ready to join the ranks on the invalids being struck off. Mistakes of two or three men might occur by proposed invalids being rejected; but a few supernumeraries would soon be absorbed, especially in a regiment containing Pathans.

I attach the following paper by Major Lance, second-in-command, 2nd Punjab Cavalry, on the subject of recruits:—

"The maintenance of a reserve of dismounted recruits at head-quarters, in addition to the established number of sowars, is suggested as an effective means of ensuring a regular supply of men to fill vacancies.

Five dismounted recruits per troop, or thirty per regiment, are suggested.

The pay for the first year to be Rs. 5 per mensem. Should no vacancy be available after that time, the pay to be increased to Rs. 7 per mensem till one occurs.

The men to provide themselves with undress uniform, and to be liable after passing their drill to perform such duties as the commanding officer may deem suitable.

An establishment of horses, in the proportion of one horse to every three recruits, would have to be maintained for their instruction in riding and mounted duties.

These horses might be provided and kept through the agency of the regimental chanda, a first grant of Rs. 200 being made for each horse, and a monthly payment of Rs. 10 to cover all expenses of feed, accoutrements, gear, and renewal of horse when necessary,—compensation for dearthness of provisions being drawn as for other regimental horses.

The commanding officer to have the option of enlisting direct as sowars any men of family, or others who would not take service first as dismounted recruits, which, it is believed, most candidates for service would gladly consent to do.

Dismounted recruits to be eligible for transfer to other regiments on an emergency.

The advantages of this system appear to be—

First, that every regiment would be always up to its full strength of sowars;

Secondly, that these sowars would all be fully trained soldiers;

Thirdly, that on the outbreak of war, in addition to these two great advantages, seven hundred and fifty men, either fully or partially drilled, would be present with the cavalry regiment of Bengal and the Punjab Frontier Force, either to provide for immediate augmentation or to fill vacancies;

Fourthly, including the cost of maintenance of horses, three dismounted recruits could be kept at the cost of one sowar;

Fifthly, many of the dismounted recruits would be available to reduce the heavy night duties of sowars, which have been found to materially affect the percentage of sick.

F. LANCE, Major,

Second-in-Command, 2nd Punjab Cavalry."

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

I always find I obtain my chief supply of recruits through the influence of my most influential Native officers of good family and position. I see no other arrangement, without reverting to the old system of unlimited bargheers, which no commanding officer would recommend.

There would be no want of the very best recruits if local class regiments were formed.

I don't think this question is worth troubling about. In our own regiment at least we are never at a loss for good recruits; and if we were a class regiment, the supply would be even more abundant.

From our experience it is not advisable, though in our case easily managed. Native officers are more anxious to provide for dependents than to select for physical qualifications. Our messadar-major raised a troop in the mutiny, and brings up candidates from time to time; and you often must disoblige him, or else enlist very inferior material.

Yes.—If a Native officer had a little pecuniary interest on each assamee filled by his men, he would use his full influence in procuring recruits.

Native officers will always procure recruits from their own districts, if money is advanced for their horses and accoutrements. The difficulty is to get good men with money. If the family is rich, they would probably not allow the sons to take service. I don't think any fixed rule could be made. Native officers will always bring as many of their own class as they can, and in some few cases will bring relations with money.

They might be asked on going to a regiment how many men with money they will undertake to bring. Their answer will depend on their own influence and means.

I frequently employ good Native officers and non-commissioned officers to bring recruits back with them from furlough, and I have no difficulty ordinarily in regard to recruiting. But if a large number of men are invalided, it takes some time to fill the vacancies with the proper class of recruits. For such occasions I would ask that supernumeraries

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commanding 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

sons, and to jemadars of villages. These men, when once enlisted as Native officers, would, I am sure, be able to assist in keeping up a supply of men from their country.

Such an arrangement is quite possible, and has existed for years in my regiment; not only as regards the Native officers, but the non-commissioned officers and men. All that appears to me to be necessary is, that commanding officers in making such arrangements should receive the support of the military authorities, and that they should not be tied down too much as regards locality and height.

I do not think it would be a wise measure, as it would, I think, give an undue and undesirable influence over the men they brought.

No.—Nor would I recommend it.

32. Are you in favor of cavalry pioneers; and how many men would you train per regiment?

Colonel O. Wilkinson, Commanding 2nd Bengal Cavalry.

Yes; I think half-a-dozen pioneers to each troop should be maintained.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

No.—I am not in favor of regularly-trained pioneers, who would be expected to *perform* at the annual inspection of the regiment; but I think a mule-load of pioneer tools might with advantage be served out, and would be very useful to regiments on service. The men understand the use of picks and shovels sufficiently well without any particular training, and the pioneer tools that have been sent out to regiments as specimens are worse than useless—mere play-things to suit toy-soldiers.

Colonel Hugh Gough, Commanding 12th Bengal Cavalry.

I tried the system during the late campaign, and am of opinion it would answer admirably as occasion might require. Six men per troop are ample; but the tools should be of a superior quality than those furnished last year.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

I would train five men and one non-commissioned officer per troop, or 48 per regiment of four squadrons; and I would place the whole party under a specially trained Native officer. The instruction of all should be entrusted to a selected European officer.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Yes; I think every corps should be as complete as possible. At the same time cavalry are not so much required to construct as to destroy; and while I would not neglect the pioneers, I would pay more attention to a demolition train. Railways, telegraphs, bridges, should be capable of destruction by a troop of cavalry. I think four pioneers per troop should be trained. Special instruction should be given in the use of dynamite and petards and mines. Instruments for uprooting and twisting rails, cutting wire, &c., would be useful if employed against civilized enemies.

Captain M. G. Gerard, 2nd Central India Horse.

Yes; provided tools are carried on pack-mules, of reasonable size and of style adapted to Natives. Those issued for Cabul were a useless encumbrance to the men.

About 12 per squadron=36 with present regiments should be trained. Destruction rather than construction should be their peculiar province; and dynamite, portfires, &c., should form part of equipment, as in Germany.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

I would train the whole regiment to a certain extent; and whenever the regiment paraded, 8 men per troop, *i.e.*, 48 per regiment, should be told off to carry the entrenching tools, and form one complete force on the inner flanks of troops.

Should a squadron be detached, they would take their 16 sets of tools with them.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Yes; and if decided on, I think that by degrees every man in a regiment might be trained to ordinary pioneer's work. In my experience of a few men trained for a particular work their presence in the ranks when wanted can never be assured without giving them a separate roster from the other men for detached and oven line duties.

Colonel J. Blair, *v.c.*, Commandant 1st Bombay Lancers.

Yes; I would have, as at present, 6 per troop, 36 in a regiment; but to make them more efficient, and to have a thorough knowledge of their work, they should be sent for six months to the sappers and miners;

for, as it now stands, it is quite impossible to get the men together (for Adjutant-General's Circular No. 202 C.T. says that pioneers are to perform all duties as other men) on account of outpost and other duties, which take the men away in their turn for a month.

Men, to be thoroughly taught, must be brought together at least four times a week. I would suggest that the matter be left entirely in the hands of the commandant, and, that the men should have certain privileges allowed them.

Lieutenant-Colonel C. La
Tonche, Commandant Poona
Horse.

I am in favor of the principle of mounted pioneers. My only objection to them in cavalry regiments is; that the men have already so many other duties to perform, that I consider it inexpedient to add to them. I am in favor of a system of mounted sappers, who should be attached to cavalry regiments as occasion may require. On the outbreak of hostilities such men, from the very superior training they would have received, would be more effective than a few cavalry soldiers, who had but a mere smattering of sapper knowledge. If it is decided that cavalry must arrange for their own pioneer work, I think the men selected should be sent to the sappers to undergo a regular course of training which they would never receive properly, regimentally. I would, however, far prefer to see the system of mounted sappers introduced. I consider, moreover, that it is highly expedient not to add to the weight already carried by the horses, and that the pioneer tools would greatly increase the number of sorebacks.

Lieutenant-Colonel J. H. P.
Malcolmson, Commandant 3rd
Sind Horse.

Yes; I think they would be very useful, but they should each carry one large and useful tool, and not the toy tools that are, I believe, ordered. I would only give them a carbine, and they should be taught that they are only to fight in self-defence. They should also carry small charges of gun-cottons or other explosive material, so as to be able to destroy walls, burst open doors, gateways, &c. About 30 for the regiment would be ample.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

Yes.—I would have one regiment of the seven cavalry regiments in Bombay trained and equipped as pioneers; and from this regiment of cavalry pioneers should furnish a troop or more under its own officers to any of the other regiments when ordered on service. I think cavalry pioneers require a special training, which they could not get in an ordinary cavalry regiment. To be of any real use, there should be a number of them. A few men per troop would be practically useless, and would consider it a grievance to have to carry and use the tools.

33. Do you consider that it would be desirable to obtain a younger class of men as Native officers than is realized under the present system? And if so, what plan would you suggest?

Colonel O. Wilkinson, Com-
mandant 2nd Bengal Cavalry.

I have partially answered this question in No. 28. I would have young gentlemen appointed as Native officers, but would prefer their receiving a regular military education at a military college. Those men that are promoted from the ranks should not be very young men. Character, influence in the regiment, family, &c., should take precedence of consideration of mere smartness. This I think very important in the Native cavalry.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

I think that as the present system allows of the entertainment of Native officers direct on probation, a commanding officer should not recommend for promotion a man so old that he is not fit for the position. I am quite opposed to the dead-level systems. Some young non-commissioned officer may surely be found in every regiment fit for promotion, or a suitable one may be obtained by direct appointment.

Colonel Hugh Gough, Com-
mandant 12th Bengal Cavalry.

The only plan of getting young Native officers is by the system of direct commissions.

This, with a judicious selection of young deserving men from the non-commissioned ranks, should furnish all that is required.

Lieutenant-Colonel A. R. D.
Muckenzie, 3rd Bengal Cavalry.

It would be desirable to obtain a younger class of Native officers. This object would be attained, if a reserve existed, by passing into it all Native officers on completion of 25 years' service and others of less than 25 years' service who might be thought better placed there than with the line regiment. These officers should be entitled to pension after completing 32 years' service in all.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd Central India Horse.

I have answered this question in 28. The reserve would hasten promotion also.

Yes; most desirable for cavalry. I would bestow one-third direct commissions for first year on probation.

Permit any duffadar or sowar between three and ten years' service to present himself for examination, *visà voce* and practical, unenumbered by formal reports or returns by his squadron officers in—

- (1) Riding.
- (2) Drill, including outposts attacked, &c.
- (3) Nizabazi, and proficiency with weapons, including musketry.
- (4) Slight knowledge of surveying, keeping duty rosters, accounts, &c.

The examination to be qualifying rather than competitive, and character, &c., to be allowed due weight. Selection from those recommended by squadron commanders to rest solely with the commandant. No man after 15 years' service to be eligible for a commission.

The great advantage of above would be not so much giving exceptional qualifications an early chance of recognition, as its being the means of disabussing the large majority of sowars who failed to undergo or exhibited their deficiencies under examination of the idea that their claims had been unfairly overlooked.

Captain A. H. S. Neill, Central India Horse.

I think that, except for special reasons, men should not be promoted from the ranks to the commissioned grade after they are 30 years of age. For direct commissions the probationer should be under 21 years of age.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Some young Native officers in a regiment are no doubt good. Their buoyancy and *elan* are beneficial; but an old soldier of unblemished character is as useful in leading and advising the younger and more thoughtless.

The introduction of young Native gentlemen would supply the former, and the promotion of two out of three Native officers from the ranks the latter.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

In cases where a Native officer (or a non-commissioned officer), though not physically unfit, has lost energy or nerve, and is, without being guilty of misconduct, generally unfit for his position, the commanding officer's recommendation being accepted without further question by an invaliding or other committee would be a great concession; for the evil indicated does exist.

Colonel J. Blair, V.C., Commandant 1st Bombay Lancers.

I do not myself see how younger men can be obtained, unless Government give commissions to rajas' sons and others. As a general rule, it is not a good thing giving quick promotion to a Native, because it makes them careless and stuck-up, and they are apt to think a little too much of themselves. The quickest promotion in this regiment to a Native officer has been in 15 years. Of course there are exceptional cases in which this can be done.

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

I think, now that Native officers can claim their pensions at 32 years' service, there ought to be no difficulty about having a body of men quite fitted as regards their age for all the duties required of them. I don't think any change in the existing system is necessary.

Lieutenant-Colonel J. H. P. Malcolmson, Commandant 3rd Sind Horse.

It lays very much in the hands of the commanding officer to obtain young Native officers by rapid promotion, if he so desire; and I see no necessity for devising any other scheme. I do not hold with having very young Native officers, as I do not think they maintain such good discipline, as a rule, when on detached duty; and I think a leaven of moderately old Native officers gives a tone and example to the juniors, which is very desirable.

Major A. R. Heyland, 1st Bombay Light Cavalry.

No.—I like Native officers to be somewhat more senior and experienced than those under them; but they should be better educated in the regimental school than they are, and should be expected at least to read and write their own language before promotion.

34. Do you consider that the present uniform of the Native soldier meets all requirements?

Colonel O. Wilkinson, Commandant 2nd Bengal Cavalry.

I think, with the present practice of dismounted work, the jack-boots should be modified in some way. They might be open at the instep and fastened with straps across to keep them firm at the ankle; but I object to Blucher boots and *pullees* for cavalry. In other respects I think no alterations are required, unless doing away with full dress.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

Yes, a good serviceable uniform; but would prefer boots with gaiters to the long boot now worn by the cavalry. But a really *good* boot and gaiter suitable for cavalry has, I think, yet to be devised.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

The uniform and equipment of the Bengal cavalry appear to me admirably suited to all requirements.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

The uniform of the 3rd Bengal Cavalry meets all ordinary requirements, with the exception of the Napoleon boots, which are irksome and in the way on dismounted duties. In my opinion boots of ammunition pattern with *puttees* or leg-bandages would be far more serviceable, though not so sightly. In place of the *puttees*, leather gaiters might be ordinarily worn with the ammunition boots; and if each sowar were supplied with a set of *puttees*, these could on active service be substituted for the gaiters. Each Native cavalry soldier should also be supplied with two pairs of warm woollen stockings, two pairs of warm gloves, two thick flannel shirts, two pairs of thick flannel drawers, and one good blanket when sent on active service into cold climates. His present pay hardly allows of his providing these necessities for himself.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

I think in the cavalry the uniform is very good—all but the boots. The latter is bad, but I can't suggest a better. On the subject of clothing, I think it would be well if Government allowed Native soldiers extra clothing when employed in cold countries on a fixed scale known beforehand. The habit of fixing on a scale when war breaks out is not good.

Captain M. G. Gerard, 2nd Central India Horse.

Yes, that of the Bengal cavalry does, with exception of some details, about which great diversity of opinion exists, such as that of drab replacing blue gaiters, boots, and hunting hussar saddles, &c.

I consider the Central India Horse perfect with exception of boots, which are neat but unserviceable; and the cloak, ordinary cavalry pattern, which should be replaced by some sort of *dourmous* with hood.

Brigadier-General O. J. Godby, Commanding Punjab Frontier Force.

The uniform is excellent in the cavalry; but I think that as cavalry are now expected to fight on foot as well as on horseback, the jack-boot should be abandoned and the *puttee* and gaiter adopted.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

I agree with the Native ranks in being satisfied that the present uniform and accoutrements of the regiment meet all requirements; and they have undergone the tests of the mutiny, the Jowaki campaign, and this expedition.

Colonel J. Blair, V.C., Commanding 1st Bombay Lancers.

The uniform, *viz.*, a blouse and *loongee*, now worn by all ranks, I consider very serviceable; but all ranks are anxious to have the present weapon, the straight sword, changed to a curved one, similar to the one now in use with the Central India Horse, and breech-loading pistols issued to the front rank, of the same pattern as the few we received from the arsenal in Malta.

Lieutenant-Colonel G. La Touche, Commandant Poona Horse.

My regiment has lately, under instructions from army headquarters, been supplied with a blouse and *loongee*. This dress is not nearly so much liked by the men as the *alkhalik* and smaller *puggree* which have been in use for a great many years. As regards my own individual opinion, I think that the *alkhalik* trimmed with braid and facing gives the soldier a much smarter appearance than the blouse; and it can be put on and taken off more quickly and without disarranging the head-dress. My objection to the *loongee* is, that I don't think it would be suitable for campaigning in wet weather, and gives a good deal of trouble in putting it together when it gets unravelled. In other respects I think the men are supplied with as good uniform as they can afford to pay for.

Lieutenant-Colonel J. H. P. Malcolmson, Commandant 3rd Sind Horse.

Yes; as far as my regiment is concerned, I do.

Major A. R. Heyland, 1st Bombay Light Cavalry.

I think there is much room for improvement; and I would suggest that Bombay Native cavalry have fewer and more inexpensive articles of dress. We might take valuable hints from Bengalis, notably the 9th and 10th Bengal Regiments, with whom we were brigaded in Malta, who have to each sowar one pair of yellow Native tight-fitting trousers to do the work for which our men each require two pairs breeches and two pairs trousers.

Would suggest loose blouses, quilted for cold weather, instead of thick stiff cloth *alkhaliks*; the latter being expensive, and, from their shape and material, necessarily ill-fitting and painfully uncomfortable.

Would further suggest brown leather shoes and gaiters instead of long boots; the former being suitable for dismounted as well as mounted duties, and the latter being altogether unsuited for dismounted duties, and would probably drown men and horses if required to swim a river.

35. Is the present mode of payment to the Madras soldiers, depending as it does on the price of rice, a judicious arrangement?

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

On this subject, as there is a Madras regiment quartered here under my command, I have made some inquiries; and my opinion is, that the plan is a very bad one, and that the family certificates which sepoys are able to grant to relatives for the payment of a small monthly sum, and which carry the right to rice compensation to the relative also, is still worse.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

I should not think the mode of paying Madras soldiers a judicious arrangement, but I have no experience as to how it works.

Lieutenant-Colonel C. La
Touche, Commandant Poona
Horse.

The principle involved in this mode of payment would appear to be somewhat similar to that of compensation for dearth of provisions; but it could only be suitable to troops who depended entirely on rice for their food. I would not recommend an extension of the system to the Bombay presidency.

Lieutenant-Colonel J. H. P.
Malcolmson, Commandant 3rd
Sind Horse.

It would appear to me not, but I am not in a position to say for certain. I am not in favor of any arrangement that savors of compensation.

36. It is very desirable to reduce the number of followers of all classes in regiments both in peace time and in active service: can you suggest reductions of the present establishment?

Colonel O. Wilkinson, Com-
mandant 2nd Bengal Cavalry.

I cannot suggest reductions in the camp-followers of cavalry below the scale drawn out by the Equipment Committee in 1877, of which I was a member.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

No reduction possible in Bengal cavalry.

Colonel Hugh Gough, Com-
mandant 12th Bengal Cavalry.

I do not think the *recognized* followers of Bengal cavalry regiments are in any way out of proportion to their absolute wants in peace time. Such as are not absolutely necessary on service are always dispensed with.

Lieutenant-Colonel A. R. D.
Mackenzie, 3rd Bengal Cavalry.

Any reduction of the establishment of camp-followers of a Native cavalry regiment seems impracticable.

Major O. Barnes, Officiating
Commandant 10th (Duke of Cam-
bridge's Own) Bengal Lancers.

The number of followers in a Native cavalry regiment is very small, if you except the grass-cutters and the hospital establishment. Taking the question of the remainder first, I hope I may be allowed to say that I think the cry against followers is often unreasonable. Dinners must be cooked, water must be brought, camps and latrines must be kept clean; officers must be waited on. Some one must do all this; and it appears to me sweepers, blusties, cooks, and khitmutgars will do it a very great deal better than soldiers. If soldiers are to be told off for this work, what is the use of training them so highly as they are now trained? I know other armies don't have the followers; the soldiers do the work. But so much the worse for the other armies; the work is not so well done, and skilled fighting men are not forthcoming in full force when wanted. If you have 200 men and 4 followers, you have a force of 204 men to carry, feed, equip, &c. You put 200 men in the field when wanted, while 4 look to their comforts well. If you have a force of 204 soldiers and no followers, your total force is still 204. Four soldiers look badly after the comforts of the rest, while 200 take the field. Therefore your fighting strength is the same in both cases; but you pay a soldier highly to do badly what a follower would do cheaply and well. I do not think it well to reduce the cooks, sweepers, or blusties, &c.; but the hospital establishment and grass-cutters are capable of reduction—the former to a very great extent, the latter perhaps in some measure. I think *when followers save the necessity of withdrawing soldiers from the fighting line they should be allowed*, but not otherwise. They are cheaper and do the work better. The followers of the hospital establishment were without doubt far in excess of the regimental requirements in Afghanistan. Indeed, I can safely say that we never used one-fourth of them. The grass-cutters were also numerous; but the silledar system obtaining throughout the Native cavalry will not permit of their reduction. If Government could supply grass to the horses and carriage to the men, reduction could be made possibly. But it must be borne in mind that, while the regiment suffered from want of grass, the poor grass-cutters were almost worked to death. Stationed at Dacca, we brought grass from Bassawal; and the ponies and attendants had more work than they could do. This does not appear to prove that there were more of them than necessary.

The system of ponies and grass-cutters, judging from experience, appears bad. In Abyssinia they were taken from us; in Malta they were idle all the time they were there. In Afghanistan they did good work certainly, but often at the cost, always at the risk, of their lives. If the commissariat could provide grass, and the transport carry it, I think the regimental grass-cutter would certainly be not wanted. But it is doubtful whether an equal number of men would not have to be employed by the commissariat to provide grass, and the transport to provide carriage.

Captain M. G. Gerard, 2nd
Central India Horse.

The public followers of a Native cavalry regiment in peace being only 35, *viz.*, 7 kahars, &c., hospital 4 for bazar, 24 bhistics, cooks, sweepers, cannot possibly be reduced. The private followers paid by sowars, 78 in number (bhistics, sweepers, dhobies, sikligars, &c.) would be left behind on service, at any rate across the frontier.

Though the 50 per cent. grass-cutters, who act as mule-drivers in addition, are necessary for a prolonged campaign, an indirect reduction is perfectly feasible.

A second (Government) mule might be put in their charge on service, free rations being given in recompense—which would carry six days' full rations for man and horse, and effect a proportionate reduction in the transport train drivers. For instance, a regiment of 600 sowars would thereby reduce the transport train by 100 (at 1 driver to three mules).

Instead of one grass-cutter per charger, one and one pony to two should be substituted; and the same man could drive a string of three on the march, with his master's baggage.

This would be a practical saving of five followers per three officers, even on Cabul scale.

An undue reduction of followers would tell on available fighting strength in the field, such as men detailed from the ranks to remove wounded, &c., &c.; and one reason of their practical non-existence in European armies is that, contrary to what it is here, they would be far more expensive to entertain than a similar number of soldiers.

I don't know where any reduction can be made in a cavalry regiment.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

I consider that 495 followers are necessary for a full regiment of cavalry,—see my letter No. 314, dated 20th August 1879, and its accompaniment, to the address of the Quarter-Master-General in India; and of this number nearly all but officers' servants (64) are paid for by the men, which shows, I think, that they are at all events considered indispensable.

Colonel J. Blair, v.c., Com-
mandant 1st Bombay Lancers.

The followers paid by Government and kept up in a Bombay cavalry regiment are so very few, I do not think any reduction possible.

Lieutenant-Colonel C. La
Touche, Commandant Poona
Horse.

The bulk of the camp-followers in a cavalry regiment consists of syces, who combine the functions of groom and grass-cutter. They are kept up in the proportion of one to every two horses; and they could not by any possibility be reduced, in my opinion, without considerably interfering with the efficiency of the regiment; for not only have they to attend to the grooming of the horses of men on guard, in hospital, and on furlough, but they have the sole charge of the baggage ponies, who without the syces would have no one to look after them, either in camp or on the line of march. I wish to draw special attention to this question of syces in the Bombay cavalry, as it is sometimes supposed they are merely kept up to groom the horses and save the men the trouble. This, however, is not the case. They do in this regiment all the duty of Bengal grass-cutters, and look after the baggage-ponies besides. Without them, the regiment's transport arrangements, which now enable the regiment to move anywhere at half-an-hour's notice, would at once collapse; for baggage-animals without men to look after them in camp and on the march would be quite useless. In camp the sowars have quite enough to do to groom and look after their own horses and kit; and on the march, without syces the baggage-animals would be useless encumbrances. I do not think the other camp-followers in the regiment are in excess of actual requirements.

Lieutenant-Colonel J. H. P.
Malcolmson, Commandant 3rd
Sind Horse.

I consider the establishment of doolie-bearers and doolies with a cavalry regiment as excessive; and, as a case in point, my regiment has gone through the campaign with only some 30 doolie-wallas and 4 doolies, which, with 6 camels for *kajwahs*, I think, are ample, unless some exceptional sickness breaks out.

Among the other establishments, unless Government undertake a system of transport of a different nature to what is now in vogue, I do not see how the followers can well be reduced.

Major A. R. Hoyalnd, 1st
Bombay Light Cavalry.

I do not think public followers could be reduced much, if at all; private followers might be. For instance, syces in Native cavalry might

he reduced one-third for a campaign if necessary; but only able-bodied men should be taken on service, of course, as syces.

N.B.—There was an army of untrained, and consequently useless, doolie-bearers, sickly old men and boy syces, embarked with the Malta Expedition.

37. Can you suggest improvement in the system of entertaining these men; and in what way could they be organized so as to be less defenceless and helpless than they are at present?

Colonel O. Wilkinson, Commandant 2nd Bengal Cavalry.

I am unable to suggest any measure to meet this difficulty. I cannot conceive how cavalry followers in India can be made less defenceless. I saw them armed in the Kuram, but I had no faith in the plan.

Colonel C. J. S. Gough, 6th Bengal Cavalry.

No; I am sorry to say I can see no way, considering the poor and wretched classes that furnish such followers.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

I do not see what other system can be adopted in regiments of Bengal cavalry, where the followers are the private servants of the men, and are entertained and discharged at will. Regarding the arming of camp-followers, beyond supplying them with a Native tulwar for the purpose of defence, there is no other good or suitable weapon.

During the late campaign, all the camp-followers were armed by Government with straight cavalry sabres—a weapon which proved of great encumbrance and no use.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

Each camp-follower should, when in an enemy's country, be provided with a smooth-bore pistol and half-a-dozen cartridges and a few caps. They should always be kept in compact bodies under sufficient escort; and breaches of discipline, such as straying from the main body, should from the very outset of operations meet with exemplary and immediate punishment. Their losses generally arise from want of discipline and strict supervision.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

No; I know of no improved manner. If foraging parties or camp-followers are cut up, it is generally from some faulty arrangements for their protection or their own wilful neglect of orders. We did not lose one man during the campaign. They were always with a guard, and both obeyed orders willingly and well.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

The present system of entertaining is not objectionable; but they might be armed to a certain extent, and be put through some marching drill, and taught how to keep together when marching, or when attacked; and their arms periodically inspected. I believe they would take pride in their weapons. We have often heard of the excellent behavior of kahars under trying circumstances. Half-a-dozen armed men running together on an alarm would present a formidable appearance to a gang of robbers.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

Their helplessness in self-defence is a real anxiety; and I am unable to suggest any remedy further than that the necessity for guarding them necessitates regiments being up to their full strength for field service.

Colonel J. Blair, v.c., Commandant 1st Bombay Lancers.

The only plan would be to enlist the few Government followers, and let them go through a course of instruction as a recruit, and, when in service, mounted on spare horses and fully armed. They would then be a source of strength, instead of being defenceless and helpless as at present. With reference to the private followers in a regiment, I see no way of organizing them; but still with a little trouble they might be taught the use of firearms, and how to combine in case of attack whilst out foraging.

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

The syces and other camp-followers are the private servants of the men, who make their own arrangements for entertaining and discharging them. In consequence of the men being unable to pay anything but very small salaries, they are, as a rule, a very inferior class. I do not see how they could be rendered capable of fighting without some system of training, which, in my opinion, would be quite impracticable; for they are fully occupied from morning till night looking after their silledars, horses and ponies, and would not, I feel sure, submit to any system of military training, even if the time could be spared, without receiving some extra remuneration in return. I look upon camp-followers as an evil, but a necessary evil; and I feel sure that in a cavalry regiment, where the men have, as they have with us, to keep up a baggage-pony for every two horses, the existing establishment could not be reduced. Baggage-ponies that are not well cared for in camp, and have no one to load and look after them on the march, would lead to great inconvenience under existing circumstances. As I have pointed out further on, our baggage-ponies can march forty and fifty miles a day, and bring up their loads within half-an-hour of the arrival of the regiment.

Lieutenant-Colonel J. H. P. Malcolmsoo, Commandant 3rd Sind Horse.

The only plan that occurs to me is to complete each regiment with a skeleton establishment of transport for baggage, commissariat, and ammunition, which should be organized on a specified scale, and be controlled and partially drilled by the commanding officer. This skeleton staff of each branch would then be filled up in time of war; and the subordinates, being well acquainted with their work, and the means of defence in themselves which they could be taught, would be much less helpless and defenceless than they are; and this would prevent the confusion that invariably attends the march of followers, and I think obviate the necessity of such large escorts as now usually accompany them.

Major A. R. Heyland, 1st Bombay Light Cavalry.

I suggest a regularly-organized coolie corps for use both in peace and war; local in peace, and the number required in each station to be used as bearers of ambulance litters, carriers, and escorts of stores, forage, water, drivers of carts, &c., &c.

In war.

As punkha and tattic coolies for European barracks and hospitals, carriers and escorts of stores, doolie-wallas, and for any other purpose (excepting sweepers), for which coolies are entertained by Government, to be dressed in a cheap uniform, which should consist of khaki *puggree*, blue canvas frock, ordinary Native dhotie and shoes; all of which they should be required to purchase from stores.

In peace.

Fixed pay for Bombay, Rs. 5 per mensem for all under five years' service. Increase of one rupee per mensem for every five years. No grades of rank, no pensions; but gratuities on discharge, on a scale according to service. Length of service to be shown by rings (one for every five years' service) on the sleeve of the coat. No compensation for the dearth of provisions; but in famine districts and times the commissariat should sell grain to them at a rate within their means.

They should be drilled by non-commissioned officers and men of the European regiments of the station as carriers, in formation of escorts, in the use of smooth-bore firearms, which should, however, be only given to them on service in countries where they are absolutely required.

38. The general station hospital system is more economical than the regimental one: do you consider that this system can be worked in the Native army?

Colonel O. Wilkinson, Commandant 2nd Bengal Cavalry.

I certainly think the general station hospital system could be worked in the Native army.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

I have no doubt the system *can* be worked; but whether it would be advisable to do so or not is another matter. I do not think the regiment would be the gainer, nor would it be in any way so popular; and I certainly prefer regimental system for peace, but in war time a field hospital becomes a necessity. But this can be worked in conjunction with regimental system, although no doubt the field hospital system is more economical.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

Not advantageously. It is a known fact that Native soldiers have an instinctive dislike to treatment even in their own regimental hospital. But a very few years back in many regiments this prejudice was indulged, and the more slight cases used frequently to be treated in the lines, or men came to hospital, received their treatment, and then remained in the lines.

They would all the more object to a general station hospital, where probably the medical attendants would not be known to them, and where the hospital might possibly be at an inconvenient distance from their lines for their friends to remain with them.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

This system could very easily be worked if local bodies of class troops were formed, and moved *en bloc*.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

Yes, I think it could with advantage on service. Some regimental establishment would be needed.

Captain A. H. S. Neill, Central India Horse.

Do not think the system would add to the efficiency and comfort of the soldier. Might induce him to conceal his ailments more, and drive him to Native *hakims*.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

The general hospital system could be worked in peace time, but at the expense of efficiency.

The regimental surgeon's knowledge of the men and their habits and constitution is a great advantage to the sick; and the regimental system no doubt increases the facility of moving, is more popular, and in every way preferable.

The general hospital system is objectionable in every way, excepting that it is economical; and on any emergency arising would entirely break down.

Colonel T. G. Keady, 2nd
Punjab Cavalry.

See attachment by the medical officer, following:—

"The only saving in substituting the station for the regimental hospital system would be that in the former fewer buildings perhaps, and certainly fewer surgical instruments, would be required. But nearly all the surgical instruments now in the equipment of regimental hospitals would be required with a regiment on a campaign. This number should therefore be kept up; and the best way of storing them would be, as now, with regiments, where they would always be kept in order.

Station hospitals are objectionable in a sanitary point of view, it being found that disease is generated and spread by congregating numbers of sick men in one building.

In case of an epidemic it would be desirable to have regimental hospitals in different parts of a station, which should be at the disposal of the senior medical officer, when one or more could be used for infected cases, and the other patients treated at a distance from them.

With regard to the hospital establishment, not one of its members can be cut down by adopting the station system. Two hospital assistants, one dresser, one hlistie, and one sweeper, which make up the present establishment of a Native cavalry regiment, are all absolutely necessary to take efficient charge of the sick given by a strength of over 1,000 men and followers. This is especially the case in the north-west frontier, where one hospital assistant is commonly in charge of an outpost. In a campaign the number of hospital assistants required would be still larger. The number of medical officers could not possibly be reduced; for by any system at least one surgeon would be required for 1,000 men. There must be one surgeon for the strength of a regiment; and this being so, it is better he should belong to a regiment than have charge of men of whose previous history he is ignorant, and to whom he is personally unknown. Similarly the number of hospital assistants cannot be reduced; and it is better that they should be attached to regiments than that the Native soldiers should be under the care of strangers, whom they will not trust, and to whom they will not make known their wants.

The important and difficult duty of arranging for the nursing and dieting of the sick could never be so efficiently carried out by an outsider as by a regimental officer.

Perhaps a small gain might be effected by using one station instead of several regimental hospitals; but this is an economy which even the supporters of the station system would scarcely advocate for the sanitary reasons stated."

Colonel J. Blair, v.c., Com-
mandant 1st Bombay Lancers.

It may be a more economical plan; but still I do not consider that the general station hospital system would work satisfactorily in the Native army.

Lieutenant-Colonel C. La
Touche, Commandant Poona
Horse.

I have no doubt that the system could be worked and that saving might be the result; but I don't think it would be an improvement. On the contrary, I am of opinion that it would be a mistake. I think every regiment should have its own medical officer; and that this is specially necessary in a cavalry regiment, where the nature of the duties so greatly increase the chances of a doctor being required at a moment's notice. No doubt in civil hospitals medical men look after many more patients than ever fall to their lot during regimental duty; but in such cases there are no questions of discipline and military subordination, which would, I fear (in the case of the general station hospital system), lead to friction and complications.

Lieutenant-Colonel J. H. P.
Malcolmsen, Commandant 3rd
Sind Horse.

I do not consider the general hospital system at all suitable for Native cavalry, because it takes men away from their homes and friends, which is all that interests them. The Surgeon-General with the Kandahar column has, I believe, also given his opinion that the regimental system is the best. The men are known by their own medical officer and the subordinates of the hospital, and meet with more attention and comfort than when they go among strangers. Added to this, their friends take them their food, and provide them with many things that no one would have any interest in providing them with in a general hospital. Moreover, in my regiment the regimental fund provides some 25 sets of warm bedding and clothing which are used by patients in hospital, and also supplies soups, preserved provisions, and medical comforts (which are not sanctioned by Government) at the recommendation of the medical officer. All these advantages would be lost to the men of the regiment were they sent to a general hospital, and I am sure would be a very unpopular arrangement.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

I would not recommend it. The doctor of a regiment knows, or ought to know, intimately the men of his regiment; can detect schemes quickly, has an interest in the men and in his regiment; the men generally have confidence in him. A general hospital system would include none of these advantages. It is true that in ordinary times of peace the regimental doctor of a Native regiment has comparatively nothing to do. In an epidemic or in war this would be quite the other way. In idle times might not the doctor be made more use of? Many would be glad to volunteer to be of use in assisting in non-combatant duties, to take charge of regimental schools, veterinary charge, &c., &c.

39. Can you suggest a better and more economical system in the place of the present one for compensation for dearness of provisions?

Colonel O. Wilkinson, Com-
mandant 2nd Bengal Cavalry.

I do not know of any more economical system for compensation than the existing one.

Colonel C. J. S. Gough, 5th
Bengal Cavalry.

Major O. Barnes, Officiating
Commandant 10th (Duke of Cam-
bridge's Own) Bengal Lancers.

Captain M. G. Gerard, 2nd
Central India Horse.

Captain A. H. S. Neill, Central
India Horse.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

Colonel J. Blair, v.c., Com-
mandant 1st Bombay Lancers.

Lieutenant-Colonel C. L. Touche,
Commandant Poona Horse.

No.

I do not think the system to blame; but the pay authorities are most exacting—vexatiously so generally. A small party going away on escort duty will be refused compensation if the dnffadar, or perhaps sowar in charge, has failed to obtain a daily tariff from the civil authorities. A little more liberality from the pay department, and a little more credit to a commanding officer, would put this to right.

It is possible; but only so for regiments permanently quartered in one district.

In lieu of compensation, each regiment of Central India Horse has a Government loan of Rs. 16,000, which, with further deposits, &c., forms a grain fund, managed annually by each *ressaldar* in turn. The assistance of such sowars as he requires is given, and advances made to the *zemindars* who are *dealt with direct*. By this means, and by remission of export taxes for our grain, as a rule regimental grain is 20 per cent. cheaper than the bazar rate.

Each sowar is restricted to 5 seers gram and 2 of atta, above which he pays local *nerrick*.

Our chief purchases are in Bhilsa, 100 miles distant, not in immediate vicinity.

To make the system pay thoroughly, the fund should have Rs. 50,000 for 500 men—an amount we could only raise by borrowing.

If regiments were localized more, a similar system might be tried which is now in force in the Central India Horse, *viz.*, instead of compensation, a standing loan of Rs. 16,000 is granted to each regiment. With this, advances are made direct to the cultivators before the harvest, and grain eventually purchased cheaper than the station rates. But the system is troublesome and precarious, and has many drawbacks.

I think the present system of compensation is the fairest, and probably as economical a plan as could be adopted.

This is an extremely difficult and complicated matter, from which I see no release; though the form of bill for drawing compensation might, I should think, be much simplified.

It is an unmistakable fact that the sum of Rs. 10, the pay of a sowar, and Rs. 20 allowed to each for the keep of his horse, shoes of pony, pay of his syce, and keeping up his horse, appointments, &c., in these days of increased prices in forage and grain is inadequate. The average compensation for dearthness of provisions vary monthly. As this regiment has only been here (Neemuch) a short time, I will quote the amount of compensation paid in one month to each sowar:—

	Rs.	A.	P.
For dearthness of provisions	...	3	9 2
" " forage and grain	...	10	13 4½

whilst at Poona.

I would allow no compensation, unless things were selling at real famine prices; and then only by a certificate from the officer commanding the brigade to the effect that it was really necessary. I would increase the Native soldier's pay by Rs. 2-3 and the cavalier soldier for the keep, &c., of his horse by Rs. 5-8, thus paying to each cavalry sowar Rs. 35 instead of Rs. 30 as at present. This would be a great saving to Government in the end.

The Bombay cavalry should be placed on the same footing as that of Bengal. The prices in the matter of forage, including grain, are far lower throughout the Bengal presidency than they are in Bombay. Moreover, whenever Bengal cavalry are quartered, they get a *bheer* of grass allotted to them. We have no such boon.

I can think of no way of getting rid of the system of compensation; except raising the pay. This might be done, perhaps, by comparing the *nerricks* at the time existing rates were sanctioned with those now current, and revising the pay accordingly. I am of opinion that the existing system of giving compensation is open to grave objections, inasmuch as it is based entirely on a system of *nerricks*, which are just as often incorrect as the reverse. I believe that, where supervision is not very strict, it offers a premium on fraud, and that Government is robbed. I think that sometimes the reverse is the case, and that the men have just cause of complaint; that malpractices would be specially likely to occur in cases of detached bodies of men, where the *nerricks* would have to be supplied by some Native subordinate magistrate; and if such an official were inclined to take advantage of his position, I see nothing to prevent his falsifying the *nerricks* in

collusion with the men, and sharing the plunder. Another objection to the existing system is that, in the case of the horses, men have to wait generally for two months before they get their compensation, and are thus forced to throw themselves into the hands of the saukars for money which is absolutely necessary. Furthermore, I think most regimental officers will agree with me when I say that the compensation abstracts give more trouble than all the other pay papers put together. There is perpetual correspondence and perpetual references. I am totally opposed to the system in every way, and strongly advocate an increase of pay in lieu of the existing arrangements; and I feel sure that Government would gain by the change.

Lieutenant-Colonel J. H. P. Malcolmson, Commandant 3rd Sind Horse.

I have always considered compensation for dearness of both provisions and forage a mistake, and have represented it. I think it would be far better to at once acknowledge the fact that the Native soldier, owing to the rise on every kind of food and forage, is underpaid, and to raise his pay accordingly. It would then be to his interest to endeavour to keep down the prices of everything. Now that both the seller and buyer know that Government recoup the soldier in anything over a certain cost, the former combine to raise the prices out of all measure, and the latter grows indifferent after the compensation point has been reached. I think it would be advisable to take the average of compensation that has been given for both provisions and forage for the last five years, and raise the soldier's pay by that amount, and do away with all compensation.

Major A. R. Heyland, 1st Bombay Light Cavalry.

The rules existing are such that almost any change would be for the better, although probably not more economical.

A reduction in the staff of the pay department might be made if compensation was awarded for dearness of provisions and forage on a scale of a quarter, half, three-fourths, and whole rupees, abolishing broken periods; over 15 days to count as a month, under as nothing. Officers commanding stations, in committee with cantonment magistrates and officers commanding Native corps, to settle the compensation rate quarterly and not monthly after searching enquiry into real market rates; the Government Gazette rate being accepted with caution.

In famine times grain to be sold to Native soldiers by the commissariat at Government rates, with option of course to Native soldiers to purchase their rations elsewhere without compensation.

40. Cannot the guard duties of troops in garrison be reduced? Can you give detailed suggestions as to the manner in which this may be done?

Colonel O. Wilkinson, Commandant 2nd Bengal Cavalry.

I do not think that the guard duties in garrison can be reduced. At least, I have not seen in ordinary times the duties pressing heavily on regiments. If absolutely necessary, the hospital and commanding officer's guard might be abolished.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

The guards furnished by regiments under regulations have been already reduced to the smallest number necessary, and as regards station guards, it is impossible to lay down general rules; but they are also ordered on what is considered absolutely necessary only. I cannot see how they can be reduced.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

The guard duties of troops in garrison sometimes fall very heavily. As a rule, this is unavoidable at the time. This however, I presume, is a point to which the observation of officers in command of garrisons and brigades would be particularly directed.

Lieutenant-Colonel A. R. D. Mackenzie, 3rd Bengal Cavalry.

A committee should be assembled at each garrison, with instructions to carefully examine the whole subject of the existing guard duties of that particular garrison, and to make suggestions as to their reduction by amalgamating at one spot buildings, &c., which now require separate guards, or in any other way.

Major O. Barnes, Officiating Commandant (Duke of Cambridge's Own) Bengal Lancers.

I do not think the guards of the cavalry excessive. At Unballa our men were hard-worked owing to the number of thieves there, and the failure of the police to catch them; but ordinarily the duty is not severe. Possibly the hospital guard, the bazaar guard, and the mess guard might be discontinued; and I should say the same of the commanding officer's guard, were it not specially ordered.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

Guard duties have been reduced as much as possible in the frontier garrisons, and I see no way for further reduction.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

I can only suggest walls round cavalry lines with only front, rear, and two flank exits for reducing regimental duty. Garrison duties can of course be only regulated according to garrison requirements.

Colonel J. Blair, V.C., Commandant 1st Bombay Lancers.

Lieutenant-Colonel C. La Touche, Commandant Poona Horse.

Lieutenant-Colonel J. H. P. Malcolmson, Commandant 3rd Sind Horse.

Major A. R. Heyland, 1st Bombay Light Cavalry.

No; I do not think they can. Guards are never put on unless necessary.

The guards in this station consist of the regimental guards only, there being no other regiment quartered here. I am an advocate for reducing guard duty as much as possible.

I am not sufficiently acquainted with the details of garrison duty to give an opinion on this point, especially as they vary so much at different stations, and I think require special consideration in each case.

One guard only at the station (Deesa) might with advantage be taken up by the police, *viz.*, the bazaar native guard.

Besides this, here and in most stations there are only regimental quarter guards, magazine, treasury, and arsenal guards, which could not possibly be done away with or taken by police.

41. What do you consider to be the results of experience in the working of the medical and hospital system as practised generally in India and during the recent operations in Afghanistan?

Colonel O. Wilkinson, Commandant 2nd Bengal Cavalry.

In peace I believe that the medical and hospital system as practised generally in India has worked satisfactorily; but I do not believe any adequate arrangements are made to meet the requirements of a sudden war. I know there were difficulties in pushing hospital furniture and medical stores and camp equipage to the front when it was necessary to advance base hospital from Kohat. I also know that the most important medicine—chloroform—was only forthcoming at the last moment. I also know that the establishment left for Kohat hospital was deficient. I also know that men were sent down to base hospital when sick without any pay or papers of any kind; and the poor fellows would have starved had I not ordered them, on my own responsibility, an advance of pay, and my own pay is withheld pending the settlement of their accounts.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

The fault of the system in my opinion, and from my own observation during the recent operations in Afghanistan, is that when regiments, and even considerable forces of all arms, are detached from the head-quarter or base hospital, sufficient means are not always placed at the disposal of the medical officers to meet the exigencies of the service. For instance, the whole of the seriously wounded, of whom there were a good number at the action of Futehabad, had to be sent at once back to Jellalabad, as the doctors had no means of treating them. The distance was 17 miles, and immediate repose might have been of very great consequence to many of them. Also, on the return march, the treatment of the patients under the very severe outbreak of cholera amongst the 10th Hussars and I-C, R. II. A., under my command was carried on under difficulties. The field hospital system is no doubt economical in every way; but I think more means should be placed at the disposal of regimental medical officers, particularly when detached.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

The working of the medical and hospital system with the Native troops, as far as the campaign progressed, was satisfactory.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

I think we had too many tents, too many doolies, too many kahars. We kept to our regimental hospital, which was most admirably looked after by Surgeon-Major Currie and the Native doctors; but we could have done very well indeed without the greater part of the establishment had there been a general hospital to send the men to.

Brigadier-General C. J. Godby, Commanding Punjab Frontier Force.

As far as my experience goes, the regimental hospital system works well.

I was not engaged in the operations in Afghanistan, and cannot say from personal experience how the system worked there.

Colonel T. G. Kennedy, 2nd Punjab Cavalry.

See attachment by medical officer, following:—

"Experience shows that the present medical and hospital system works well.

In the 2nd Division, Quetta Field Force, an opportunity was offered of observing the working of the non-regimental field hospital system, which was carried out among the Native troops from Hailkalzai to Kandahar. The medicines, stores, hospital assistants, kahars, sick carriage, and medical officers were ordered to stay behind with the main column. A small box of medicines, a pocket case, one hospital assistant, and one dandy were sent with each regiment going to the front. At one time the 2nd Punjab Cavalry, 32nd Native Infantry, and 26th Native Infantry were ordered to Gulistan Karez, two marches in advance of the column, with orders to go one or two marches further on to reconnoitre the Gwaja pass. The equipment last named was ordered for each of these regiments. All the surgeons were ordered to remain behind

with the sick at the field hospital; so that if any men were wounded or became dangerously ill in front, there would have been no one competent to treat them nearer than two marches off. There was not sufficient carriage with the troops in front for wounded or to carry their sick back, and not sufficient medicines and appliances to treat them where they were. In this instance, one of the surgeons of the regiments ordered to the front did not receive the orders to remain behind until he had arrived at Galistan with his hospital or part of it. The field hospital was formed by uniting the regimental hospitals, so that there was no saving in *matériel* or in *personnel*. In the British regiments something similar occurred. If a man were severely wounded, he should have to be sent back often two marches to have an operation performed, thus increasing his risk a hundred per cent., and with no gain whatever. After having been sent back, he should then be brought on again over the same ground with the advance of the main column.

In a campaign in India, where there must be a number of baggage camels, the army must move slowly, and there will never be any necessity to have the sick behind the regiment. Should it be necessary in rare instances, the regimental hospitals might be left standing in charge of an hospital assistant or of the surgeon of a regiment in the rear, while the regimental surgeon went on with the regiment, bringing what appliances he thought necessary to assist the wounded. In European warfare it may be necessary to have the sick men in the rear, where modes of transit are quick. In India the sick can be protected as well as the camp-followers and baggage with a regiment.

Another objection to the field hospital is that when a Native cavalry regiment leaves any sick behind, it has also to leave nearly as many other men to look after the horses of the sick. Another objection is that light eases who get well in a few days may be kept behind their regiments for a considerable time after they get well. Another objection is that the men lose the society of their friends when they are ill, and that they are in charge of doctors whom they do not know. In a regiment, if the sick carriage is used up, the spare horses of sick men and spare camels might be used for sick transport of the lighter cases.

Base hospitals fully equipped, the equipment, not as in this campaign, being taken from the regiments of the force, would be required. In place of field hospitals regimental hospitals should be used. If in any case it should be necessary to transfer the sick of a regiment, its own hospital not being up with it, it is much better to transfer them to the hospital of a regiment than to a field hospital, crowded with all the sick of the force, with its surgeons and attendants hurried and overworked."

Colonel J. Blair, v.o., Commandant 1st Bombay Lancers.

I have always found it to work well.

The field hospital system has proved itself, I think (from all I have heard), to be the best means of treating sick satisfactorily during time of war.

Lieutenant-Colonel J. H. P. Malcolmson, Commandant 3rd Sind Horse.

I think the regimental hospital system has worked very well during the campaign; but, as I remarked before, I do not think the general hospital system advisable.

42. State your views as to the efficiency of the arrangements in cantonments and on field service for the transport of the sick, both in *personnel* and *matériel*; and give any practical suggestions which may occur to you as likely, if acted on, to improve efficiency or reduce expenditure.

Colonel O. Wilkinson, Commandant 2nd Bengal Cavalry.

In cantonments, I cannot think that any transport for the sick could beat the ordinary doolie; and in war time some sort of hammock carried by two men should be introduced, in addition to doolies and camel litters.

Colonel C. J. S. Gough, 5th Bengal Cavalry.

The transport of sick is a very difficult subject, which has also been most thoughtfully treated by men who have had great practical experience, and yet difficulties remain. Although Government has offered rewards for a suitable pattern of doolie, not even that has yet been obtained. I regret that I have not the knowledge or experience to suggest any improvements likely to be of any use.

Colonel Hugh Gough, Commandant 12th Bengal Cavalry.

There is no doubt there is room for material improvement in the arrangements for the transport of the sick and wounded on field service. This is a subject which I have no doubt could be much better replied to by officers who had more experience on this point than I had during the late campaign.

Major O. Barnes, Officiating Commandant 10th (Duke of Cambridge's Own) Bengal Lancers.

I consider that every cavalry regiment should in quarters have a very small hospital establishment to treat emergent cases on the ground. Bad kicks, bad falls, and possibly gun-accidents demand instant attention frequently. A doctor, with 1 doolie, 4 kahars, and a medicine chest, would be enough. On service this establishment would have to be increased to, say, 6 doolies or dandies, with necessary kahars; but these would only be required for *bona fide* field service or on the march, the treatment of disease or surgical cases being left to the general hospital establishment. The medical officer would treat single cases, such as mild kicks, &c., in the men's tents; no hospital being required.

If the corps were detached, of course provision for all cases would have to be made.

Captain M. G. Gerard, 2nd
Central India Horse.

The present doolie is absurdly heavy and clumsy, and only one per cent. of a modified pattern should be retained for long journeys to base hospital, &c.

For service, a Native cavalry regiment, instead of 10 dandies with 42 kahars per cent. as on Cahul scale, should have 4 dandies and 20 kahars and 3 mules with cacolets and 3 drivers or 23 followers instead of 42 for conveyance of 10 sick at a faster pace, as there would be 5 instead of 4 bearers.

At recent rates this represents a gain to Government of Rs. 250 in money and 4 muleloads of rations per cent. per mensem. The gain with British regiments would be still larger.

Cacolets are an absolute necessity for cavalry out here. In European warfare a comrade wounded in a reconnaissance may be safely left behind; but as this is impossible in our case, you must either extemporize some mode of strapping him on a saddle, or else by keeping with and protecting your doolies sacrifice all mobility, and allow even infantry to overtake you.

A cacolet mule may at a pinch be led at a round trot. That this may kill a wounded man is no argument against it, as that is preferable to abandoning him to savages, or to suffering severe loss, in covering the slow retreat of doolies. On line of march for footsore men, fever patients, and those wounded in limbs, they do admirably, and travel faster than dandies, which in recent war averaged $1\frac{1}{2}$ miles per hour at best.

One mule per regiment should be kept up in peace, to test saddlery, &c.

Kahars in the Khyber column were most inferior. This I ascribe in great measure to their enlistment being confided to the commissariat, who, under the press of other work, were naturally interested rather in producing speedily the required number of men to searching for trained bearers. Many, I saw, were unable to keep step even; and others too feeble to move anything save an empty doolie.

Light spring ambulance wagons, with horse *not* bullock draught, might well supersede a large percentage of doolies for use in many parts of India.

Brigadier-General C. J. Godby,
Commanding Punjab Frontier
Force.

In cantonments the present system is good enough. On service camel kajawabs (improved) might be more largely introduced.

Kahars would be reduced. Four sick men could travel in one pair of kajawabs, and one man to lead. These four men would require 24 kahars. Camp-followers would thus be reduced.

Colonel T. G. Kennedy, 2nd
Punjab Cavalry.

See attachment by medical officer, following:—

"For a peace establishment, I consider the sick carriage equipment of the Frontier Force sufficient, provided a regiment when marching in course of relief, &c., were permitted to borrow additional carriage from other corps. The present durrie dandies should, however, be done away with, as they cannot be used for wounded, and are most uncomfortable for the sick. They should be replaced by Lushai dandies. The present doolie is much too heavy and cumbersome. Doolies might be made light enough to be carried by five instead of six bearers. For a campaign the undermentioned equipment would, I think, be found sufficient for a Native cavalry regiment. The additional carriage for the sick should be kept up by the commissariat and supplied to regiments ordered on service. The kajawabs should not be the country pattern one, which was supplied by the commissariat in the present campaign. A much better pattern is that supplied to the regiments of the Punjab Frontier Force, though this also might be improved upon."

Colonel J. Blair, V.C., Com-
mandant 1st Bombay Lancers.

The arrangements for the sick of the regiment answer very well in cantonments or field service. The doolies, dandies, and stretchers that were handed over to the regiment on embarking for Malta were old, heavy, and cumbersome, and had to be constantly repaired. I would suggest a lighter kind. We had 3 medical officers and 3 hospital assistants and about 70 odd doolie-bearers. These men were, with the exception of some 4 or 5, found to be perfectly useless, never having carried or seen such a thing as a doolie or stretcher. By constant drilling they were got into shape, and by the time we left Cyprus were able to work well together, notwithstanding the cry that was raised in Malta at the number of followers which the Indian contingent had. They were found to be very useful when the officers and soldiers of the British regiment at camp Chiffock in Cyprus had to be taken away to Larnaka, a distance of nearly 44 miles. It was there that they were appreciated. I think myself nothing is better than a doolie. The Bengal troops were provided with a lighter kind and had very good kahars. I can suggest no economy, except that better and lighter doolies, dandies, &c., might be supplied to regiments going on field service; and had we at once taken the field, the men sent as doolie-bearers would have been found quite useless for carrying the wounded to the rear.

Lieutenant-Colonel J. H. P.
Malcolmson, Commandant 3rd
Sind Horse.

The circumstances attending field operations in this country are so varied, both as to features of country, nature of roads and of transport animals, that it would be impossible to lay down any pattern of chair or other conveyance. I think the transport of the sick, as far as the regimental sick went, was very well conducted; but I think more care should be taken of the doolie-wallas, and more care bestowed on their clothing and welfare, when I feel sure we should have a better class of men.

Major A. R. Heyland, 1st
Bombay Light Cavalry.

My ideas as regards *personnel* are embodied in replies Nos. 36 and 37. As to *matériel*, I think the bulky and not-easily-to-be-stowed-away doolie should not be used for service in the field; it requires from four to six bearers. Light litters, poles with net hammocks, might be used instead, as requiring fewer men. Large heavy ambulance carts do not appear useful; and I would recommend for service in some countries, anywhere where wheeled vehicles or artillery can go, light bamboo platform carts, to be drawn by men or by small ponies and mules about 12-2 in height, or by even good country donkeys. The platform of these carts to be of coir rope, string or tape, and available as a litter for hand carrying when separated from axle and wheels.

I consider this sort of carts which can be seen (not of bamboo and coir) by hundreds in Malta of every size, drawn by horses, mules, and tiny donkeys, to possess the following advantages:—

- (a) The lightest wheeled vehicle possible and cheapest—(Rs. 16 or less).
- (b) Capable of being easily drawn by men, small mules and ponies, and even by country donkeys.
- (c) Suitability for carriage of either men or stores, such as small tents, bags of grain, kit bags, cooking utensils, &c., &c., but not heavy boxes or chests.
- (d) Convertibility into hand litters.
- (e) Speed at which they can travel drawn by small animals.
- (f) Superior celerity, as compared with pack-animals, at which they can be laden.
- (g) Simplicity of construction, and ease with which they can be repaired.
- (h) Simplicity of harness required for them, thus being a breast-band, kogire or Native pack-saddle stuffed with grass, raw leather belly-band and traces, so that—
- (i) in case of a breakdown the animal drawing it can at once be used as a pack-animal, and
- (j) the empty cart for a 12-2 pony can be carried on the head of one strong or two ordinary coolies.
- (k) The ease with which these carts with a sheet or matting over them can be used to give shelter to followers for whom tents are not procurable, the carts being placed either singly or two and two together.

I should add that these carts have been tested on good roads only for long marches, and found a success; and I have no doubt they would do well on bad roads, and in most places where pack-animals could go, carrying twice or three times as much weight and never giving a soreback.

N.B.—In the matter of reserve squadrons, I have, I find, omitted to draw attention to the probability that, with a little encouragement and a few advantages offered, the reserve men of cavalry would take to horse and mule breeding on a considerable scale.

Also have I, writing in haste, omitted that part of my proposition regarding disposal of assamees of reserve men. On a man joining the reserve I would give him part of the fixed value of his assamee as a small capital to commence either farming or horse and mule breeding, and the balance on taking his pension (an additional security for his good behavior in the reserve). Government of course would in the first instance, and until the reserve was formed, be at some expense in this plan, which would eventually be self-supporting.

The reduction in expenditure that would be effected by the plan of one reserve dismounted squadron to each regiment is easily calculated, taking horse allowance at Rs. 20, added to half the pay of all ranks, plus average compensation for dearth of provisions and forage to man and beast, and I think there is no doubt about the large increase of efficiency.

Remarks by LIEUT.-COL. D. B. YOUNG, *Officiating Controller of Military Accounts, Bombay.*

These questions have doubtless been very ably answered by the several officers to whom they have been addressed; but I submit for consideration that the wide subject should be discussed whether it is advisable to continue the system of irregular cavalry regiments, *i.e.*, the silledar system.

I believe it will be admitted that the change from the regular system was made in view to economy, and solely to this end. At least, I think that was the reason of the change in the Bombay presidency. I therefore hope to show that, as far as economy goes, little is now gained.

Taking the actuals for last year of the 3rd Bombay Cavalry and Poona Horse, I find that the average cost of each regiment amounted to Rs. 3,21,000.

Taking two regiments of Bombay regular cavalry for the year 1856-57, *i.e.*, before the mutiny, I find that by deducting the cost of the then establishment of European officers, and substituting those allowed to a silledar regiment, and adding the cost of the feed of the horses, *i.e.*, Rs. 220* per annum, and Rs. 50 per animal for remounting, then the total average charge would amount to Rs. 3,31,000, or only Rs. 10,000 per annum in excess of an irregular cavalry regiment.

To further illustrate the case, I take the cost of a regiment of Madras light cavalry, in which the horses are still owned by Government, but the European officers are on the scale of irregular cavalry regiments; and find that the cost, charging for the feed of the horses at the rate taken in the prior case of the Bombay regiment, minus pay of grass-cutters, which is included in the cost of a regiment taken from the budget, amounts to Rs. 2,94,600 per annum, or Rs. 26,400 less than an irregular regiment in the Bombay presidency; but this difference would be expended in providing for a short number of 60 sowars. However this sum of Rs. 26,400 would very nearly be sufficient to provide this number, as it represents a charge of Rs. 440 per annum per man.

Hence this calculation goes to support very closely my argument that the irregular system causes a comparatively slight saving to Government.

I should say that grain compensation has in no instance been taken, only forage compensation.

I have also allowed Rs. 50 a year per animal for the purchase of horses.

The details of my calculations are given in the annexed papers marked A, B, and C.

It may be observed that no allowance has been made for cost of clothing and accoutrements; but the former is small, not Rs. 4,000 a year, taking the Madras budget as a guide; and I have in the charge for the old regular cavalry included cost for European non-commissioned staff and for a band, neither of which expenses are incurred in the irregular Bombay regiments referred to.

Apart from the actual and contemplated expenses of an irregular cavalry regiment, there is the very possible charge for compensation for extraordinary loss of horses. After the Abyssinian campaign, the various regiments were very largely helped towards being remounted by Government; and I submit that Government is frequently put in an anomalous position owing to the horses being quasi-private property.

For instance, under the forage compensation rules, once the maximum of cost to the sowar is overstepped, it becomes a matter of indifference to the regiment whether economy in feeding the horses is studied, *i.e.*, such as making favorable arrangements for the supply of grass or grain; and yet Government may have scruples in ordering a certain description of grain or grass to be used, as it may remember that it is not dealing with its own property.

I have dealt with the question from a purely financial point of view, as I do not suppose that from a military point any doubt can be entertained that the regular system is superior. I certainly believe that on active service a so-called irregular cavalry regiment is no more self-helpful than a regular one, as both alike have to fall back on the commissariat, and I do not imagine that a superior class of men, have been brought into the army by the silledar system, the practice of having rich men, *i.e.*, owners of many horses, having been discountenanced. Hence the regiments are mainly formed of men owning only the horse they ride, to procure which they have very probably incurred a debt which presses on them for many years, militating against their efficiency.

It will doubtless have been felt that the silledar system has presented great difficulties to the adoption of any system of reserve or short service with the colors, should such a plan have met with any support. Hence the reversion to the system of Government owning the horses of Native cavalry regiments would clear away an otherwise very awkward obstacle.

Since writing the above, I have received papers from Government going to show that the system of calculating forage compensation is to be nearly assimilated to that followed in Bengal (Government of India letter No. 908., dated 6th November 1878); and had this system been in force during last year, then the cost of each of the Bombay regiments that I have particularized would have been increased by at least Rs. 20,000, or showing a total cost for a regiment of Rs. 3,41,000.

It will be understood that I have written as regards the Bombay presidency. I have neither data nor knowledge concerning the Bengal army.

A BOMBAY CAVALRY.

1878-79.

Actual cost of the 3rd Regiment Native Light Cavalry and Poona Horse in 1878-79.

Particulars.	3rd Regiment Native Cavalry.		Poona Horse.	
	Rs.	A. P.	Rs.	A. P.
Cost for one year, including compensation for dearness of forage, but not compensation for dearness of provisions...	3,00,985	13 10	3,40,907	3 6

Rs. A. P. Rs. A. P.
Sum of above figures = 6,41,893 1 4 + 2 = 3,20,916 8 8
i.e., average cost of one regiment per annum.

* NOTE.—Includes pay of grass-cutters.

B

BOMBAY CAVALRY.

1856-57.

Cost of 1st and 2nd Regiments Native Cavalry in 1856-57.

Particulars.	1st Regiment Native Cavalry.		2nd Regiment Native Cavalry.	
	Rs.	A. P.	Rs.	A. P.
Aggregate charge for one month as abstracted from register for 1856-57.	21,134	7 5	22,099	0 5
<i>Deduct</i> —Pay and allowances of officers	7,789	1 8	8,033	10 2
Staff pay of adjutant	207	7 0	207	7 0
Staff pay of quartermaster	162	0 0	100	0 0
Pay of grass-cutters	775	0 0	820	0 0
	8,933	8 8	9,161	1 2
	12,200	14 9	12,937	15 3
<i>Add</i> —Pay and staff pay of officers in 1879	3,330	11 8	4,678	5 0
12 ×	15,531	10 5	17,616	4 3
		12		12
+	1,86,379	13 0	2,11,395	3 0
			1,86,379	13 0
+		2	3,97,775	0 0
Average ... ..	.....		1,98,887	8 0
<i>Add</i> —Feed of 490 horses, at Rs. 220 each	1,07,800	0 0	.....
For remounting 400 horses, at Rs. 50 each	24,500	0 0	1,32,300	0 0
Total average cost of one regiment			3,31,187	8 0

C

MADRAS CAVALRY.

1878-79.

	Rs.	Rs.	A. P.
Cost of a cavalry regiment in Madras per annum ... ..	...	1,99,815	0 0
<i>Add</i> —Feed of 427 horses, at Rs. 172 each	73,444		
<i>i.e.</i> , 220—48, <i>vis.</i> , pay of grass-cutters.			
For remounting 427 horses, at Rs. 50 each	21,350		
		94,794	0 0
Total		2,94,609	0 0

G.

NATIVE INFANTRY.

1. As it is obviously impossible to maintain an army always on a war footing, what should be the strength of a Native battalion on a peace establishment?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

712 of all ranks, as at present.

Colonel H. S. Obbard, Com-
mandant 41st Bengal Native
Infantry.

Taking into consideration present requirements for duties of all descriptions, efficiency of instruction, and readiness to meet the first call for service, the present peace establishment of 600 sepoy, with proportion of commissioned and non-commissioned officers, is sufficient. I do not think it could be reduced.

Colonel T. Boiaragon, Com-
manding 30th Punjab Native
Infantry.

Provided no extraneous duties of garrison orderlies, escorts, &c., are
required to be furnished by the regiments—

Peace establishment—

8 subadars.	32 naiks.
1 Native adjutant.	16 buglers.
32 havildars.	16 bandsmen.
400 sepoys.	

Colonel E. Dandridge, Com-
manding 40th Native Infantry.

The number of companies to be eight. Each to consist of, both in
peace and war time—

1 European officer.	5 naiks.
1 subadar.	2 drummers.
1 jemadar.	2 musicians.
5 havildars.	100 sepoys.

We have thus two battalions of 800 sepoys each.

To feed these, both in peace and war time, a district recruiting
depôt to be formed. This depôt to be officered by one musketry in-
structor from each battalion (with a proportion of drill instructors), and
always to have ready a sufficient number of trained recruits to enable it
to supply at once 100 men to each battalion ordered on service, and also
to provide and train yearly as many recruits as the regiments recruiting
from the district may require.

As it is not likely that all the regiments recruiting from one district
would be on active service at the same time, the depôt would continue a
supply of trained men to those corps actually engaged to the following
extent. Say three regiments recruit from one district depôt: the said
depôt has, as above provided for, 200 trained men ready for each (100
for each battalion). One regiment goes on service, two do not. Depôt
can supply 400 extra men to the one, and there would still be under
training the number of recruits required yearly for each corps.

With the above organization in good working trim, I am of opinion
that a further reserve of pensioned soldiers would not be necessary. I
am also of opinion that, without incurring any expense in peace time,
a reserve corps, on the outbreak of war, could be formed in each district,
for garrison duty only, by the enrolment of volunteers from the existing
pension establishment. The pay offered should be liberal, say Rs. 9 per
mensem, for those in receipt of Rs. 4 pension, and Rs. 11 for those in
receipt of Rs. 7 pension.

Should it be decided on to form a regular corps of pensioners, my
opinions on that head are given in answers to questions 16, 17, 18, 19,
20, 21, 22, 24, 25.

Colonel G. W. Fraser, Com-
mandant 39th Native Infantry.

The peace establishment of a Native battalion should be in my
opinion—

16 Native commissioned officers.	40 naiks.
40 havildars.	16 drummers and fifers.
800 sepoys.	

In addition to the above, I consider the following non-effective staff
should be added, viz. :—

1 subadar-major.	1 drum-major.
1 Native adjutant (jemadar).	1 fife or bugle major.
1 havildar-major.	1 band havildar.
1 quartermaster havildar.	1 quartermaster naik.
1 musketry instructor havildar.	1 musketry instructor naik.
1 schoolmaster havildar.	1 schoolmaster naik.
1 drill havildar.	1 drill naik.
1 band naik.	

Total—1 subadar-major.
1 Native adjutant (jemadar).
8 staff havildars.
5 staff naiks.

I would here state my opinion that, considering the nature of the
duties now required of the non-commissioned officers, rightly said to be,
when thoroughly efficient, the backbone of a regiment, their pay as
compared with other ranks is inadequate; and I would suggest its being
raised to—

Havildar-major	...	Rs. 20
Other staff havildars	...	" 18
Company havildars	...	" 16

with Rs. 10 each staff pay in the case of staff and pay havildars, and
Rs. 4 in the case of color havildars.

With regard to naiks, I would suggest that all staff naiks should
receive Rs. 5 per mensem as staff pay, and that all naiks (the above
included) should retain, while in that grade, the good-conduct pay they
drew as sepoys.

Lieutenant-Colonel H. Worsley,
Commanding 7th Bengal N. I.

Impossible to reduce the peace establishment of a Native regiment
without sacrifice of efficiency: they are already too weak. At Peshawar,

early in October last, when a *coup de main* on Ali Musjid was contemplated, the several regiments in garrison could only muster between 200 and 300 bayonets each. During the leave season, what with recruits, bandsmen, sick and men unfit, few regiments could turn out more than 350 bayonets on a sudden emergency. It would therefore be dangerous to reduce the cadre still further. It would be wiser to increase the peace establishment of regiments, while reducing the number of battalions in the army.

This may the more readily be carried out, as, owing to the strategic advantages conferred by railways, many stations can now with safety be abolished or reduced.

Bearing in mind that the reduction of expenditure as well as increase of efficiency is what is to be aimed at in these suggestions, I would advocate that the strength of a Native battalion on a peace establishment be as at present, except in respect to sepoy, which might be reduced from 600 to 560 men, or 70 sepoy per company.

Four hundred sepoy, Native officers and non-commissioned officers as at present, *viz.*, 1 subadar, 1 jemadar, 5 havildars, and 5 naiks per company.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Williams,
14th Sikhs.

Lieutenant-Colonel R. J. Walker,
17th Native Infantry.

Lieutenant-Colonel B. G. Rogers,
Commanding 20th Punjab N. I.

Lieutenant-Colonel F. B. Norman,
Commanding 24th P. N. I.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native Infantry.

16 Native officers.	48 naiks.
40 havildars.	16 drummers.
640 sepoy.	
Total 760 of all ranks.	

Fide answer 5.

Not less than 800 sepoy. The commissioned and non-commissioned officers to be as at present.

I am of opinion that if a system of short service with the colors, with subsequent service in the reserve, be introduced, it will be possible to reduce the number of sepoy with a Native battalion in time of peace very considerably; and when such a system is in fair working order, and a reasonable number of men have been transferred to the reserve, I consider the peace establishment of a Native battalion might stand as follows, *viz.*—

Subadars	...	...	...	8
Jemadars	...	...	...	8
Havildars	...	...	...	40
Naiks	...	...	...	40
Buglers	...	...	...	16
Sepoy	...	...	...	504
Total of all ranks				616

Of the foregoing, two to three Native officers and from six to eight havildars, with a similar number of naiks, would require to be employed in connection with the reserves, the care of arms, accoutrements, and clothing, and the periodical training of the men.

The company on a peace establishment would therefore stand thus, namely—

Havildars	...	...	...	5
Naiks	...	...	...	5
Buglers	...	...	...	2
Sepoy	...	...	...	63
Total non-commissioned rank and file				75

But, as previously noted, two non-commissioned officers and two or three sepoy would probably be required for service with the reserves.

It would not, I think, be wise to reduce the peace establishment of a Native battalion below what I have named until the reserve system had been to a certain extent tested. If the system proved successful, it is quite possible that in time the number of sepoy might be even still further reduced.

Lieutenant-Colonel G. C. Rowcroft,
35th Native Infantry.

1 subadar-major.	40 havildars.
7 subadars.	40 naiks.
1 Native adjutant (jemadar).	16 drummers and buglers.
7 jemadars.	480 sepoy.
Total ... 592	

Lieutenant-Colonel F. M. Armstrong,
Commanding 15th (Ratnay's Sikhs) Native Infantry.

Not less than 800 sepoy, with non-commissioned officers as at present. What with sick list, leave on medical certificate, furlough, short leave, and recruits during a hot season, even in a fairly healthy station, a regiment as at present is so reduced in numbers, that the duties fall heavily. Sickness is increased thereby, and the corps soon

becomes for a time almost useless. With an increase of 260 sepoy per regiment, in some stations one or two regiments could carry out the duties which are now performed with difficulty by three and four weak corps.

The strength of a Native battalion on a peace establishment should, in my opinion, be the same as at present, *viz.*, 712 of all ranks.

If a reserve system be maintained, 4 subadars, 4 jemadars, 24 havildars, 24 naiks, 8 drummers, and 400 sepoy; total 464 of all ranks.

I cannot accept the words 'obviously impossible,' except in the sense of its being obviously impossible for us to do otherwise than keep our Native army on a war footing. Our tenure of India by force of arms absolutely forbids our doing otherwise; and our army should be ever ready to suppress a mutiny or repel invasion. A Native regiment should therefore always be at its fighting strength, and yet contain the nucleus of reinforcement. For fighting strength I would add 100 to existing strength. For a *depôt* I would add another 100, with power to recruit up to 200 more if a long campaign is anticipated: thus—

	Native officers.	Non-com-missioned officers.	Buglers.	Sepoy.	Total.
Present strength	16	80	16	600	712
Fighting. „	16	80	16	700	812
<i>Depôt</i> „	...	...	...	100	100
Extra war „	4	20	4	200	228

} 912

Captain H. D. Hutchinson,
40th Native Infantry.

The same as at present, *viz.*, 8 subadars, 8 jemadars, 40 havildars, 40 naiks, 16 drummers, and 600 sepoy.

Colonel R. Sale Hill, Com-manding 1st Goorkhas (Light Infantry).

It appears more convenient to reply to questions 1 and 2 at the same time.

On the accompanying statement I have given the present fixed establishment of Goorkha regiments, and also the organization I propose, with the numbers to be maintained during peace and war.

(a) It will be observed that the regiments are linked in battalions; and with regard to convenience of locality I would form the—

1st regiment from present 1st and 4th;

2nd regiment from present 2nd and 3rd;

3rd regiment from 5th, with a 2nd battalion added to it. This extra battalion might be either given some new station on the frontier, or located with its 1st battalion at Abbottabad, if considered more convenient or economical.

(b) The regiments are divided for war purposes into active and sedentary battalions. Each battalion of a regiment would take it in turn to proceed on service, and would be completed to its war strength from the battalion remaining behind, which again would at once proceed to complete its strength from the reserves, the organization of which will be dealt with further on.

(c) The above only deals with the Native ranks: the British officers and their organization will be considered hereafter.

(d) I consider the proposed arrangement presents the following advantages:—

1st.—A less costly peace establishment. Goorkha regiments have little or no garrison duties to perform. A large peace establishment therefore appears to be an unnecessary burden and expense to the State, provided corps can at once be placed on an efficient war footing.

2nd.—The proposed scheme provides three strong battalions for service, which (after making deductions for sick, absentees, and *depôt*) may be calculated at from 900 to 1,000 men each.

Under former system, Goorkha regiments never engaged in a campaign more than 500 to 600 strong.

All late expeditions have been "bloodless," or the loss most trifling. Even so, regiments were rendered almost skeleton from sickness, detachments, &c. What would be the state of such weak battalions after two or three severe engagements with the enemy? The present fixed establishment would probably not give as large a war strength as the proposed one, as from the 937 total of each regiment, recruits, sick, absentees, and *depôts* have also to be deducted; and moreover such battalions would not be capable of any further expansion whatever, besides being more expensive in time of peace.

3rd.—The immediate facility of filling up gaps in the ranks if occurring suddenly at the outset of a campaign from the sedentary battalion by trained men.

4th.—The present Goorkha cantonments are limited in area, and the fixed number of men, 937, would greatly crowd the cantonments, which are not capable of extension without great cost to the State. Moreover, Government will, should the present establishment be maintained, have to incur the expense of grants of money to provide the extra accommodation required for the 200 men augmented.

5th.—Increase of *esprit de corps*. Goorkha regiments take the greatest pride in the achievements of all the battalions. There is a strong national pride; and being formed into a brigade, with distinctions and titles in common, and being linked by battalions, would be popular, and foster *esprit de corps*.

GOORKHA REGIMENTS.

Establishment as lately fixed.

Decomposition of corps.	Native officers.	Non-commissioned officers.	Buglers.	Sepoys.	Total Native ranks.
1st Goorkhas (Light Infantry) ...	16	80	16	825	937
2nd Goorkhas (P. W. O.) ...	16	80	16	825	937
3rd Goorkhas (K. B.) ...	16	80	16	825	937
4th Goorkhas (E. G. R.) ...	16	80	16	825	937
5th Goorkhas (H. G. B.) ...	16	80	16	825	937
Total ...	80	400	80	4,125	4,685

Proposed establishment.

PEACE.							WAR.																
							ACTIVE.					SEDENTARY.											
BATTALION.				Native officers.	Non-commissioned officers.	Buglers.	Sepoys.	Total Native ranks.						Native officers.	Non-commissioned officers.	Buglers.	Sepoys.	Total					
Goorkha Rifle Brigade.	Regiment.	Battalion.	1st	...	"8	80	10	600	704	Active	...	12	120	24	800	1,056	...	...	...	...	...
			2nd	...	"8	80	10	600	704	Sedentary	...	...	...	...	...	4	40	8	200	368	
	II	...	...	1st	...	"8	80	10	600	704	Active	...	12	120	24	800	1,056	...	...	...	...
				2nd	...	"8	80	10	600	704	Sedentary	...	...	...	...	...	4	40	8	300	552
	III	...	...	1st	...	"8	80	10	600	704	Active	...	12	120	24	800	1,056	...	...	...	...
				2nd	...	"8	80	10	600	704	Sedentary	...	...	...	...	...	4	40	8	300	552
	Total		...	48	480	60	3,600	4,224						36	360	72	2,700	3,168	12	120	24	800	1,056

* See answer 4, paragraph (h), page 611.

(Sd.) R. SALE HILL, *Colonel,**Commanding 1st Goorkhas (Light Infantry).*

Major A. Battye, 2nd Goorkhas.

Not less than it is now, *i.e.*, 600 sepoy, except Goorkhas, who should always be on war footing of 800 sepoy, on account of small number of these regiments, their being oftener sent on service, and impossibility of filling up its ranks in time for a campaign if kept on peace footing, or indeed under two or three years.

Major F. F. Rowcroft, 4th Goorkhas.

The same at it is now, namely, 712 Natives of all ranks. It seems impossible for a regiment to be efficient, even on a peace establishment, if under the above strength.

Colonel R. Blair, 3rd Native Infantry.

I think the present peace establishment of 600 sepoy.

Colonel H. Boisragon, Commandant 4th Sikhs.

Native battalion on peace establishment,—8 subadars, 8 jemadars, 40 havildars, 40 naiks, 16 buglers, 610 sepoy.

N.B.—In the 8 subadars, one subadar-major. Amongst the 8 jemadars, one adjutant and one quartermaster; the latter on a staff of Rs. 10 a month. Of course, the usual present staff amongst the non-commissioned officers and buglers; also 16 sepy musicians in the total of 610 sepoy.

Lieut.-Colonel F. H. Jenkins, Commanding Corps of Guides.

Battalions of less than six hundred men would be no use on the north-west frontier.

Lieut.-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

On the frontier—

8 subadars, including subadar-major.
8 jemadars, including Native adjutant.
40 havildars, including drill havildar,
40 naiks.
16 buglers.
610 sepoy.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

For a peace establishment I think the strength of a Native battalion as it stood before the commencement of the Afghan war is the most convenient.

With reference to, and subject to, the modifications mentioned in my replies regarding formation of a reserve for the Native army, I consider that the strength of a Native battalion, whether on a peace or war footing, should be the same, *viz.*, 1,000 men of all ranks, divided into eight companies; the only difference being that the number of Native officers and non-commissioned officers is increased on the war establishment, *viz.* :—

		Peace.	War.
Native officers	...	17	19
Non-commissioned officers	...	82	93
Buglers	...	16	16
Sepoys	...	885	867
Total	...	1,000	1,000

Major A. G. Ross, Commanding 1st Sikh Infantry.

1 subadar-major.	1 band naik.
8 subadars.	40 naicks (company).
8 jemadars.	1 bugle-major.
1 havildar-major.	1 assistant bugle-major.
1 band havildar.	16 buglers.
40 havildars (company).	600 privates.

N.B.—Regiments on frontier to have 700 privates in peace.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

8 subadars, 8 jemadars, 41 havildars, 40 naicks, 16 buglers, 600 privates, 8 puckalis, 8 lascars.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

I am of opinion that it would be better to keep regiments entire and distinct than to divide them into battalions; but should the latter course be determined on, I consider that the strength of a Native battalion on a peace establishment should not be less than the following :—

6 subadars.	12 drummers and buglers.
6 jemadars.	480 privates.
24 havildars.	6 puckalis.
24 naicks.	1 tindal.
1 drum-major.	6 lascars.
1 fife-major.	

making 6 companies for a battalion, and 80 privates per company.

Colonel G. Hearn, Commandant 15th Madras Native Infantry.

I do not see the impossibility of keeping a regiment on a war footing; but as the question assumes it, I frame my answer to the question—18 Native officers, 41 havildars, 40 naicks, 16 drummers, 600 privates, 8 puckalis, 8 lascars, 50 boys.

Colonel L. W. Buck, Commanding 20th Madras Native Infantry.

<i>Peace establishment—</i>	
8 subadars.	6 buglers.
8 jemadars.	600 privates.
40 havildars.	8 bhisties.
40 naicks.	8 lascars.
1 bugle-major.	

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

It should be kept up to its present strength by 8 companies, with 8 subadars, 8 jemadars, one havildar-major, 10 havildars, 40 naicks, 16 drummers and fifers or buglers, and 600 privates. Drums and fifes, being useless, or next to it, for conveying orders, should be abolished and bugles substituted.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

The present strength, or 700 of all ranks, is a good strength for a peace establishment.

With a good system of reserves, I consider that the strength might be reduced to 600, or even 500, of all ranks.

Lieutenant-Colonel P. A. Carrigy, 39th Madras Native Infantry.

For a Madras Native regiment the same as at present. You cannot teach the men the whole of the drill properly where there are few men, and, besides, with fewer the guard duties would come to be much heavier even than at present.

Major E. Faunce, Commanding 14th Madras Native Infantry.

12 Native officers (I would have none: see reply 23).
 39 havildars, including—
 1 havildar-major;
 1 quartermaster havildar;
 1 drill havildar;
 6 color havildars.
 37 naicks, including 1 drill naik.
 16 buglers.
 600 privates.

Thus saving 1 subadar and 1 jemadar, 1st class, the same of 2nd class, 2 color havildars, 3 naiks, 1 tindal, 3 lascars, 1 chowdry, 2 peons. A money saving per year on 40 regiments in pay alone of about Rs. 2,14,080.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

I do not think it would be possible, with any regard to efficiency, to reduce the strength of a Native infantry battalion below the very moderate figure at which it now stands. The following return shows what a very small number of men are really available for duty in a Native infantry regiment, when due allowance is made for sick, men on furlough, recruits, and men absent on duty :—

Statement showing the actual strength, the number of recruits enlisted, number wanting to complete, and the number of nights in bed in each infantry regiment of the Native army, for the month of July 1879.

Corps.	Station.	ACTUAL STRENGTH.					RECRUITS ENLISTED.		Number wanting to complete.	Number on guard duty at head-quarters.	Number of nights in bed.
		Present fit for duty at head-quarters.	Sick prisoners, &c.	On detachment or command.	On furlough.	Total.	Since commencement of year.	During the month.			
1st Regt. N. I.	Lower Dozan...	216	38	608	1	863	2	...	...	30	24
2nd "	Nusseerabad ...	534	29	15	87	605	23	1	47	47	51
3rd "	Hyderabad ...	512	13	141	22	688	17	1	24	44	61
4th "	Poona ...	365	30	268	27	690	55	10	23	32	41
5th "	Kurrachee ...	617	27	37	12	693	...	...	19	55	5
6th "	Mhow ...	512	22	74	92	700	66	19	12	32	73
7th "	Bhoorj ...	588	37	9	71	705	57	...	7	57	43
8th "	Satara ...	371	26	235	9	691	33	14	21	53	4
9th "	Bombay ...	632	36	17	21	706	91	4	6	75	51
10th "	Neemuch ...	576	32	10	88	706	48	...	6	44	71
11th "	Poona ...	465	25	180	13	683	87	16	29	38	41
12th "	Rajkot ...	472	53	97	49	671	47	21	41	42	01
13th "	Mhow ...	304	10	241	71	689	57	2	23	35	41
14th "	Belgaum ...	479	43	107	71	700	83	18	12	51	5
15th "	Ahmedabad ...	513	49	62	60	684	18	...	28	55	41
16th "	Malegaon ...	466	31	94	71	662	32	21	53	48	31
17th "	Dharwar ...	515	20	91	66	692	24	...	20	54	51
18th "	Poona ...	355	12	252	5	624	67	5	58	26	41
19th "	Dozan, Bolan Pass.	602	102	146	1	851	30	...	...	...	...
20th "	Baroda ...	538	22	66	70	696	50	...	16	63	61
21st "	Bombay ...	232	35	360	31	708	70	1	4	47	4
22nd "	Belgaum ...	496	51	97	38	682	95	1	30	38	8
23rd "	Ahmednagar ...	587	16	33	73	709	92	7	3	48	51
24th "	Mehidporc ...	274	51	323	57	705	54	...	7	20	51
25th "	Aden ...	416	52	208	...	676	2	...	36	66	31
26th "	Deesa ...	550	36	17	66	669	45	8	43	84	31
27th "	Jacobabad ...	379	38	254	27	693	42	3	14	59	3
28th "	Surat ...	521	113	13	54	701	69	11	11	55	41
29th "	Khokaran ...	605	25	187	3	820	1	...	...	57	01
30th "	Quetta ...	331	37	255	...	653	2	...	...	61	2
Total Infantry	.....	14,133	1,111	4,580	1,256	21,080	1,367	163	620	1,421	5

From this return it appears that at the head-quarters of the thirty Native infantry regiments of the Bombay army there were only 14,133 effectives of all ranks present, giving an average of about 471 men to each. This average would be increased if the number of effectives (4,500) in the various detachments furnished by the army were included; but even then the strength of each Native regiment would be as low as would be desirable in time of peace. The fact that the average number of nights in bed is only 5 shows that the number of men available for duty is not excessive. The addition of 2 wing officers, 2 Native officers, 5 havildars, 5 naiks, and 200 sepoys to each infantry regiment in addition to the present strength would be sufficient to place the regiment on a war establishment. The extra Native and non-commissioned officers would be required to remain with the depôt, which would be formed when the regiment proceeded on active service.

Brigadier-General A. B. Little, Commandant 25th Bombay Light Infantry.

1 commandant.
2 field officers (one for each half-battalion).
8 British officers (one per company).
1 adjutant.
1 musketry instructor.
1 quartermaster and paymaster.
1 medical officer.

8 subadars.
8 jemadars.
40 naiks.
16 drummers or buglers.
24 musicians.
640 privates.
8 bhistics.
(Battalion of 8 companies.)

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

Peace establishment of a Native battalion—

6 subadars.	
6 jemadars.	
1 havildar-major.	
1 quartermaster havildar.	
1 drill havildar.	
1 musketry havildar.	
30 havildars.	
30 naiks.	
12 drummers.	
600 privates.	

} Staff havildars.

Colonel W. Bannerman, 4th Bombay Rifles.

The present strength of a Native infantry regiment on a peace establishment, viz., 40 havildars, 640 rank and file.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Sixteen Native officers, 40 havildars, 16 drummers and fifers, and 600 rank and file.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

8 subadars.		16 buglers.
8 jemadars.		32 havildars.
8 bhisties.		32 naiks.
9 lascars.		660 privates.
Total ...		640

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

1 commandant.	
1 second-in-command.	
1 wing-commander.	
1 adjutant.	
1 quartermaster and paymaster.	
6 wing officers.	
1 subadar-major.	
6 subadars.	
6 jemadars.	
1 Native adjutant.	
1 havildar-major.	
1 quartermaster and pay havildar.	
2 drill havildars	} one of each to each wing.
2 pay havildars	
2 drill naiks	
6 color or pay havildars.	
36 havildars.	
36 naiks.	
600 privates in 6 companies of 100 men each.	
24 musicians.	
10 pioneers.	

Colonel Creagh, Commandant 19th Bombay Native Infantry.

The present establishment is not too large for the duties required in cantonments.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Not less than 600 privates.

Colonel J. Fairbrother, Commandant 22nd Bombay Native Infantry.

Not less than the present strength, except 4 Native officers, and with the addition of 8 European officers: thus—

16 European officers.
12 Native officers.
40 havildars.
40 naiks.
18 drummers, fifers, and buglers.
600 privates.

Lieutenant-Colonel O. V. Tanner, Commanding 23rd Bombay Native Infantry.

Six hundred privates.

2. What should be the strength of a Native battalion on a war establishment?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Eight hundred privates, or a total of 912 of all ranks. The additional 200 privates to be drafted from the other battalion.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

The war establishment I would place at a thousand sepoys—eight hundred for the field and two hundred at depôt. Reserve men (question No. 16) ought to be fit for all duties in a month.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

War establishment.	
12 subadars.	40 havildars.
1 Native adjutant.	40 naiks.
1 Native quartermaster (havildar).	20 buglers.
	16 bandmen.
800 sepoys.	

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Vide answer 1.

I would recommend on a war establishment an increase of—

10 havildars,	200 sepoys,
10 naiks,	4 drummers and fifers,
	per battalion.

The war strength of battalions on service, on the contrary, need not be greatly, if at all, increased. Six hundred bayonets form a very handy unit, and about as many as can be efficiently supervised by the small staff of British officers to which we are restricted by motives of economy.

Deduction obtained from a consideration of answers 1 and 2.

The two axioms above laid down involve an apparent contradiction, but one that admits of the following solution, *viz.* :—

Every battalion should be so strong and so organized that, when required for service, it should be at once able of itself, without extraneous aid, to place a battalion of suitable strength in the field, and at the same time from the residue form the nucleus of a garrison battalion, which latter should be augmented to the desired strength by the reserve, and should in addition act as a feeder to that portion of the battalion which takes the field.

That is to say, every battalion should be capable of expansion into two battalions—the one for service, the other for garrison duty..

Proposal founded on the above deduction.

Peace establishment	...	...	800 bayonets,
War	...	...	1,200
of which 600 with the active portion, 600 in garrison, 400 of latter being reservists.			

On a war establishment the number of sepoys should be raised to 700. They could be maintained at this number of *trained* men in the manner indicated in reply No. 7.

One thousand sepoys and 2 Native officers and 8 non-commissioned officers in excess of peace establishment to belong to the second reserve for service at the depot when the regiment has proceeded on active service.

The 1,000 sepoys to be made up as follows :—

400 on the active list.
400 in the reserve.
200 in the second reserve, for garrison duty at the depot.

16 Native officers.	48 naiks.
40 havildars.	16 drummers.

Total ... 720 sepoys.
... 840 of all ranks.

Lieutenant-Colonel P. Harris, Commanding 11th Regiment Native Infantry.

Lieutenant-Colonel H. L. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Vide answer 5.

Lieut.-Col. R. G. Rogers, Commanding 20th Punjab N. I.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commandant 28th Punjab Native Infantry.

The war establishment to be 1,000 sepoys, with an extra havildar and naik per company.

The war establishment of a Native battalion should not, in my opinion, be less than—

Subadars	...	...	...	8
Jemadars	...	...	...	8
Havildars	...	...	...	40
Naiks	...	...	...	40
Buglers	...	...	...	16
Sepoys	...	...	...	704
Total all ranks	...	...	...	816

This would give each company a strength of—

Havildars	...	...	...	5
Naiks	...	...	...	5
Buglers	...	...	...	2
Sepoys	...	...	...	88

Total non-commissioned rank and file ... 100

I consider a battalion of 800 men the handiest for all purposes of command on field service; and making due allowance for incidental guards and escorts, &c., I think it would be found that the battalion could ordinarily take its place in action with about 700 bayonets—quite as many as eight officers can well look after when the arms and tactics of the present day are considered.

I think if the strength of the battalion be increased beyond what I have suggested, it would be necessary to make a corresponding addition to the number of its officers.

Lieutenant-Colonel G. C. Row-
croft, 35th Native Infantry.

1 subadar-major.	48 havildars.
7 subadars.	48 naiks.
1 Native adjutant (jemadar).	16 drummers.
7 jemadars.	800 sepoys.
Total	928

Lieutenant-Colonel F. M.
Armstrong, Commanding 45th
(Rattray's Sikhs) Native Infantry.

One thousand sepoys. Allowing for casualties of kinds, escorts, baggage, and other guards which must always be required, fully 1,000 sepoys are necessary to allow of the remainder being of any use as a fighting battalion. In the last campaign, after furnishing the guards and escorts called from them, regiments frequently marched with four companies of 15 or 20 files each.

Major R. S. Robertson, 4th
N. I., Offg. Assistant Adjutant-
General, Allahabad Division.

On a war establishment the strength of the battalion should be increased by 200 rank and file, making a total of 912.

Major R. A. Wauchope, 14th
Sikhs.

To be increased by 400 sepoys.

Major A. C. W. Crookshank,
92nd Pioneers.

Replied to in answer 1. A regiment should always have 812 ready for war, with a depôt of 100, consisting of sick, weakly men, and recruits. The latter would form the first reinforcement; and if a long war is anticipated, the depôt should commence recruiting 100 or 200 extra. Depôt non-commissioned officers would be dropped from regiment, promotions being made in lieu, to be absorbed afterwards.

Captain H. D. Hutchinson,
40th Native Infantry.

Eight subadars, 8 jemadars, 40 havildars, 40 naiks, 16 drummers, and 800 sepoys.

Colonel R. Sale Hill, Com-
manding 1st Goorkhas (L. I.).

Vide answer 1.

Major A. Battsy, 2nd Goor-
khas.

Not less than 800 men, exclusive of non-commissioned officers.

Major F. F. Rowcroft, 4th
Goorkhas.

One thousand Natives of all ranks.

Colonel R. Blair, 3rd Native
Infantry.

Eight hundred sepoys.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

War establishment—8 subadars, 8 jemadars, 50 havildars, 50 naiks, 16 buglers, 800 sepoys.

Lieut.-Col. F. H. Jenkins,
Commandant Corps of Guides.

Eight hundred sepoys, all trained soldiers.

Lieutenant-Colonel J. J.
Boswell, Commanding 2nd Sikh
Infantry.

10 subadars.	50 naiks.
10 jemadars.	20 buglers.
50 havildars.	800 sepoys.

Lieutenant-Colonel R. B.
Chambers, Commanding 6th
Punjab Infantry.

A Native battalion taking the field, 800 sepoys strong, with the present complement of non-commissioned officers, would be a very efficient strength.

Major R. B. P. P. Campbell,
(Queen's Own) Corps of Guides.

Vide answer 1.

Major A. G. Ross, Commanding
1st Sikh Infantry.

One thousand privates, with 3 havildars and 3 naiks added to each of the 8 companies, *i.e.*, 24 of each rank.

Colonel A. Jenkins, Command-
ant 2nd Madras Native Infantry.

Eight subadars, 8 jemadars, 57 havildars, 56 naiks, 16 buglers, 960 privates, 8 pookalis, 8 lasears.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

On a war establishment the strength should not be less than—	
8 subadars.	1 file-major.
8 jemadars.	16 drummers and buglers.
40 havildars.	800 privates.
40 naiks.	8 pookalis.
1 drum-major.	1 tindal.

8 lasears.

making 8 companies for a battalion and 100 privates per company.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

Any number up to 800 or 900, including all ranks.

Colonel L. W. Buek, Command-
ant 20th Madras Native Infantry.

	<i>War establishment.</i>
8 subadars.	1 bugle-major.
8 jemadars.	10 buglers.
48 havildars.	800 privates.
48 naiks.	10 bhisties.

8 lasears.

Two hundred privates should be added.

Colonel W. A. Gib, Command-
ant 25th Madras N. I.

On a war establishment the battalion should be at the highest strength compatible with its management as a tactical unit:—
1,000 privates or 1,100 of all ranks.

Lieutenant-Colonel F. H.
Tyrrell, 37th Madras Native
Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Light Infantry.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

Colonel W. Bannerman, 4th Bombay Rifles.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Note.—Nine hundred men is enough for most voices to command, and too much for many; but perhaps this number might be raised to 1,000.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

Eight hundred privates at least, with a proportionate increase in the ranks of the non-commissioned.

Eight hundred privates. The other ranks as on a peace footing.

Vide answer 1.

1 commandant.	2 medical officers.
2 field officers (one for each half-battalion).	10 subadars.
10 British officers (one per company).	10 jemadars.
1 adjutant.	50 havildars.
1 musketry instructor.	50 naiks.
1 quartermaster and paymaster.	20 drummers or buglers.
	24 musicians.
	800 privates.
	10 bhisties.
	(Battalion of 10 companies.)

8 subadars.	40 havildars.
8 jemadars.	40 naiks.
4 staff havildars.	16 drummers.
	800 privates.

Increase rank and file to 800.

Rank and file to be increased to 800, exclusive of unfits, recruits, &c., left with the depôt.

8 subadars.	16 buglers.
8 jemadars.	40 havildars.
8 bhisties.	40 naiks.
9 lascars.	380 privates.

Total ... 976

The same as in answer 1, with an addition of 20 men per company, and two havildars and two naiks.

An additional 200 men would suffice, with a small increase of non-commissioned officers.

Eight hundred.

16 European officers.	60 naiks.
12 Native officers.	18 drummers, fifiers, and buglers.
60 havildars.	
	900 privates.

3. What should be the number of companies per battalion?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisrasson, Commanding 30th Punjab Native Infantry.

Colonel L. Daadrige, Commanding 10th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Eight single or four double companies.

I would recommend eight companies. In time of peace six would suffice, but in time of war eight would be necessary; and to meet that necessity I would maintain eight at all times. Newly-formed companies do not work well for some time.

Peace establishment.—Four companies of 100 sepoy per company.

War establishment.—Eight companies of 100 sepoy per company.

Vide answer 1.

Eight as now constituted, but four double-companies would, I consider, be better adapted both for administrative and tactical purposes.

Taking the above (*vide answers 1 and 2*) as the basis of all organization, the number of companies in a battalion should be ten, of which 6 for active service and 4 for garrison duty.

The number of companies in the regimental depôt battalion should be four (*vide answers 5 and 7*).

As at present, eight.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattay's Sikhs) Native Infantry.

Major R. S. Robertson, 4th N. I., Offg. Assistant Adjutant-General, Allahabad Division.

Major R. A. Wanchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Batiye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieut.-Col. F. H. Jenkins, Commandant Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Lieut.-Col. B. R. Chambers, Commanding 6th Punjab Infantry.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras N. I.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

Not less than eight.

Four double-companies.

There should be eight companies in the peace establishment, six in the war.

Eight as at present. This is the best number of companies for a battalion, and is in accordance with the present system of drill. Thus each half-battalion consists of four companies or two double-companies.

In answering this question, it is necessary to consider that which follows it, and the number of British officers to be kept up with the battalion. I am inclined to think the present system of wing or half-battalion commands is the best that could be applied to the Native infantry. It seems to me to answer very well; and in this view I think eight companies to the battalion, or four to each half-battalion, is the most convenient.

Eight companies.

Eight, as at present. On service, even with 1,000 sepoy, after deducting sick and duty men, there would seldom be more than 35 or 40 files per company in the ranks—a number not too large for active service.

Eight companies per battalion, whether on a peace or war establishment.

Four.

Eight, formed in four double-companies, with a depot company in addition. The latter never to exceed 100 sepoy, and to be provided with non-commissioned officers from the battalion companies.

In peace 8 companies of 75 men each. In war 8 companies of 100 men each.

The number of companies should remain eight per battalion, and would be as follows:—

	N. O.	N. C. O.	B.	S.	Total.
Peace	1	10	2	75	88
War	1 or 2	15	3	112-13	134 or 135

the 4 extra Native officers and sepoy being posted to alternate companies.

The above strength on service would not be excessive for a company, taking into consideration the guards, escorts, &c., and would provide suitable double-companies.

Eight.—Fewer companies when the battalion is on a war footing of 800 sepoy would make each company too large, whereas with 100 men a company is just the right strength for all purposes. Native officers do not show great aptitude for commanding even such companies as we now have. They would not succeed better with larger companies. With more than 45 files on parade, a company becomes unwieldy. If strength of a battalion has to be increased beyond 800 sepoy, it will be much more convenient in every way to have eight companies.

Eight companies on either a peace or war establishment.

Eight companies, as at present.

Eight companies, war or peace establishment, i.e., 4 companies per half-battalion or wing.

Eight service and two depot companies.

Eight on peace and ten on war establishment.

I think eight is a convenient and efficient number.

Vide answer 1.

Eight companies, both in peace and war.

Eight companies.

Six companies per battalion on the peace, and eight on the war establishment.

Colonel G. Hearn, Commanding
15th Madras N. I.

Eight.

Colonel L. W. Beck, Com-
mandant 20th Madras N. I.

Eight companies.

Colonel W. A. Gib, Com-
mandant 25th Madras Native
Infantry.

There should be eight companies per battalion, as in the British regi-
ments in India. In matters of drill Native battalions should be
assimilated as much as possible to British regiments.

Lieutenant-Colonel F. H. Tyrrell,
37th Madras Native Infantry.

The same as in a battalion of the British army, for the sake of
uniformity, and to accord with our present system of drill.

*I think a few large companies in a battalion, four or six, better than
many weak ones. The former system saves expense, time, and labor.*

Lieutenant-Colonel P. A.
Carnegy, 39th Madras N. I.

Eight.

Major E. Fannee, Commanding
14th Madras Native Infantry.

Six, with the present strength of 600 privates, divided into eight
companies. *It may happen, as is the case now with my regiment, that
the average number of privates per company present with the colors is
less than 60; and there is one Native officer or full non-commissioned officer
present to every 5·24 privates. Allowing for sick present, sick absent,
vacancies, men on various duties, the present number of privates, 75,
in a company is ridiculous as a tactical unit. A commanding officer
that can muster eight companies of 25 files, 400 men, including kniks,
and on ordinary parades, considers himself lucky.*

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Eight, as at present, is a convenient number both for administrative
and tactical purposes. On a regiment taking the field, a depot com-
pany additional to the above number should be formed.

Brigadier-General A. B. Little,
Commandant 36th Bombay
Native Light Infantry.

Eight to a battalion on a peace footing; ten to a battalion on a war
footing.

Colonel S. Edwards, Com-
manding 2nd (Prince of Wales'
Own) Grenadier Regiment Bom-
bay Native Infantry.

Number of companies per battalion —

Peace footing	...	...	...	6
War	"	"	"	8

On the outbreak of war the battalion first for service to be increased
by two companies from the third battalion; and if more regiments are
required for service, the second battalion to be similarly increased from
the third.

Colonel W. Bannerman, 4th
Bombay Rifles.

Eight.

Colonel W. Hanson, Com-
manding 9th Bombay Native
Infantry.

In peace eight companies of 75 rank and file, each formed into four
double-companies. On a war establishment the rank and file to be
increased to 100 per company.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

As at present, eight companies being most convenient in every
respect.

Colonel R. Mallaby, Command-
ant 13th Bombay Native Infantry.

Six.

Colonel Crengh, Commanding
10th Bombay Native Infantry.

Four double-companies.

Colonel A. Carnegy, 21st Bom-
bay Native Infantry.

Six on a peace and eight on a war establishment.

Colonel J. Fairbrother, Com-
manding 22nd Bombay Native
Infantry.

Six. Eight might be better, with 120 or 125 men in each company;
but that would entail more officers, European and Native, and add to
the expense. A captain could command 150 men as readily and efficient-
ly as 100 or 125; but a colonel could not always make himself heard by
1,000 men, or even 500. Sometimes I consider it *a sine quâ non* that
a European captain commands every company, and under a good one
the Native officers would perform the duties of "guides" on parade
fairly—but nothing more.

Lieut.-Col. O. V. Tanner, Com-
manding 29th Bombay N. I.

Eight single-companies or four double-companies.

4. What should be the number of European officers per battalion, and how distri-
buted?

Colonel J. Doran, Commanding
25th Punjab Native Infantry.

One commandant, 1 second-in-command, 1 wing commander, 1
adjutant, 1 quartermaster, 4 wing officers, 1 medical officer—total 10 for
peace establishment.

One commandant, 1 second-in-command, 1 wing commander, 1
adjutant, 1 quartermaster, 4 double-company commanders, 2 wing
officers, 1 medical officer—total 12 for war establishment. The additional
officers to be drawn from the other battalion.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

The present number of British officers, one commandant, two wing commanders, and four wing officers, is sufficient for peace requirements. It could not be reduced, as the duties of British officers have been so much elaborated, especially in musketry.

The present distribution is also good. Wing commanders are being trained for the office of commandant, and wing officers for that of wing commander.

In time of war the wing officers should be increased to ten to provide one per company and one for the dépôt. Total of war establishment, one commandant, two wing commanders, ten wing officers.

I am of opinion that it is injudicious having all the officers attached to a Native battalion mounted. The two wing commanders and adjutant are sufficient for parade duties. At the same time the duties of British officers with Native battalions are so various, and their efficiency is so materially augmented by their being in possession of chargers, that I think they should be required to maintain them as at present.

Colonel T. Boissragon, Commanding 30th Punjab Native Infantry.

Peace establishment—

1 commandant.	1 adjutant.
2 wing commanders.	1 quartermaster.
4 company commanders.	1 medical officer.

N.B.—The senior wing commander and two of the company commanders to have charge of the drilling of the reserve when assembled for that purpose.

War establishment.—The same number as the above *actually present* with the regiment, with the addition of four officers taken from other regiments of the same class, and who would have *experience* of that particular class to *command companies* on service.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Each battalion to consist of 12 European officers, distributed thus:—one commandant, one second-in-command, one wing commander, one adjutant and quartermaster, and eight company officers.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

One colonel or lieutenant-colonel commandant.

One lieutenant-colonel second-in-command.—This officer's duties to consist in assisting the commandant in exercising a general supervision over the interior economy of the regiment, and to take command of the regiment in his absence, or that of a half-battalion if detached from regimental head quarters.

Two majors to command half-battalions, and to be responsible for them in every way as regards drill, musketry, interior economy, &c.

Four captains.—Each of these officers to command a double-company on parade, and be responsible for their interior economy, &c.

Eight subalterns.—Each to command on parade a half double-company, and to assist the captain in reference to his own half-company in all matters of drill, musketry, interior economy, &c.

1 adjutant, 1 quartermaster, 1 surgeon.

Other young officers who were appointed might be borne on the rolls as supernumeraries and posted as vacancies might occur.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Under the above organization, it should be—

- 1 lieutenant-colonel (commandant).
- 2 majors, in the same position as majors of British corps.
- 5 captains, each in command of a double-company, and performing for it the duties now taken by a wing commander. A wing is too large a unit for one officer to thoroughly supervise.
- 4 subalterns, one being adjutant and another quartermaster.

Total 12 British officers.

In war time the above might be distributed thus—

1 lieutenant-colonel	...	} with the six companies on active service.
1 major	...	
3 captains	...	
1 lieutenant as adjutant	...	
1 " " quartermaster	...	
Total 7	...	
1 major (commandant)	...	} with the four companies in garrison.
2 captains	...	
1 lieutenant as adjutant	...	
1 " " quartermaster	...	
Total 5	...	

1 lieutenant-colonel, commandant.
1 major, performing duties of wing commander for all four companies.
1 lieutenant and adjutant.
1 " and quartermaster.

Table showing the proposed peace establishment for a regiment of Native Infantry.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infantry.

The distribution would remain as at present, the only difference being that each wing commander would have two wing officers under him instead of one.

1 commandant.	1 quartermaster.
4 double-company commanders.	1 officer attached on probation.
1 adjutant.	

'Total' ... 8 officers.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

The former should have eight British and eighteen Native officers, as follows :—

1 commandant (to be considered senior of both battalions),	
2 wing commanders (including second-in-command),	
2 wing officers,	8 subadars,
1 adjutant,	8 jemādars,
1 quartermaster,	1 Native adjutant,
1 medical officer,	1 Native quartermaster,

the last-named being highly necessary on service, especially under a "regimental transport system" as adopted in the recent campaign.

The *dépôt* battalion should have none but British officers, it being a reservo of all ranks for the service battalion.

Its officers should be—

1 commander.	6 captains	} or 12 company officers.
1 second-in-command.	6 lieutenants	
1 adjutant.	1 quartermaster.	
	1 medical officer.	

It may be wondered why I advocate more British officers for this than for the service battalion. Many require fully as much training as Natives, and as much incentive to render themselves proficient; and experience has shown me that the really good Native officer is as daring, cool, and reliable as the British. The staff allowances in the one case and the hope of a commission in the service battalion in the other will be a powerful inducement to the officers and men of the *dépôt* battalion to strive for transfer to the former, and, when in it, to fit themselves for promotion.

Lieutenant-Colonel F. B. Norman, 24th Punjab Native Infantry.

As at present, I consider the present number of European officers, provided the establishment is kept up, quite sufficient. The distribution to be as at present.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

This is probably the most important, as it is certainly one of the most difficult, questions connected with army organization, and it is one on which the oldest and most experienced officers widely differ; for while some maintain that the present establishment of seven British officers is amply sufficient, others contend that there should be at least one British officer per company exclusive of the regimental staff and wing commanders.

For my own part I am of opinion that if the Native officers of a battalion are all really efficient and up to their work, up to the standard which was evidently in view when the present establishments were fixed, then I say I think the present number of seven combatant British officers would be sufficient; but then *there should always be that number*, and some arrangement must be made for providing for absentees or on account of sickness and furlough. The question of the efficiency of the Native officers of the army will be considered in my replies to question 33 later on; but I may remark here that, as a rule, the Native officers of the army do not come up to the requirements of the day. Such being the case, I do not think the present arrangement, which provides only seven combatant British officers for a battalion under all circumstances of peace or war, can be considered satisfactory. Given the war strength of a battalion of Native infantry as 800 bayonets, then I think it should have at least nine British officers.

These I would distribute as follows :—

1 commandant	...	} field officers.
2 wing commanders	...	
4 wing officers (of whom 2 should be captains and 2 subalterns).		
1 adjutant	...	} subalterns.
1 quartermaster	...	

The above should be borne on the rolls of each battalion, though in time of peace two of the wing officers might be absent, either on staff employ or engaged with the training, &c., of the reserves. This latter would certainly be preferable, as their services would then be available with their battalions, when it became necessary for the reserve men to rejoin the colors.

Suppose, therefore, a captain and a subaltern to be added to the present establishment of each battalion, the former might be employed with the reserves in training the men whenever they were called out, and in taking charge of their arms, accoutrements, and clothing. He might be further charged with the payment of these men at stated periods.

The subaltern would be available at regimental head-quarters to fill any vacancy caused by absentees on account of sickness or leave.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

On the supposition that each regiment consists of two battalions, I consider that the number and distribution of European officers per

battalion on the peace establishment should be as follows :—

1st battalion.		2nd battalion.	
1	regimental commandant.	1	battalion commandant.
2	wing commanders.	1	adjutant.
1	adjutant.	1	quartermaster.
4	wing officers.	4	wing officers.
1	medical officer.	1	medical officer.
Total		{ 15 combatant officers.	
		{ 2 non-combatant officers.	

On being ordered on active service, the first battalion would be completed to the war establishment by drafting into it from the second battalion—

4 wing officers (making 1 per company.	8 havildars.
	8 naiks.

320 sepoys.

The reserves would immediately be called in to replace the men drafted for active service, and recruits entertained to fill the vacancies so created.

It will be observed no quartermaster is recommended for the first battalion, as it is intended that all recruits shall be entertained, drilled, and supplied with regimental necessities at the head-quarters of the second battalion. In the first battalion wing commanders, assisted by their wing officers, would be responsible for the arms, accoutrements, clothing, half-mountings, and regimental necessities of the men of their respective wings.

The adjutant of the first battalion having no recruits to drill, should act as musketry instructor, and assist wing commanders in the annual course. He should also have charge of the camp equipage and ammunition of the battalion.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rat-tray's Sikhs) Native Infantry.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Ten combatant officers, *viz.*, 1 commanding officer, 2 wing commanders (field officers), 7 wing officers (captains and lieutenants). Three of the wing officers to perform the duties of adjutant, quartermaster, and musketry instructor, with the extra staff allowances. On service, casualties very soon reduce the present number of seven European officers, and their want is soon felt.

I do not think that any alteration is necessary in the number and distribution of European officers, as I consider the present organization suitable, and the number of officers ample for carrying on the duties of a Native regiment in time of peace; but in time of war the European officers of the battalion sent on service should be augmented by at least two, and others should be held in readiness to join in the event of their services being required.

One commanding officer, 1 second-in-command, 4 company officers, 1 adjutant, 1 quartermaster.

There should be ten—

Commanding officer	...	...	1
Double-company commanders	...	...	4
" subalterns	...	...	4
Depôt subaltern	...	...	1
			10

Four officers, majors and captains, would command the double-companies. Of the 5 subalterns, 1 would be adjutant, 1 quartermaster, 1 command depôt company, and 2 assist in battalion. The senior subaltern would command the depôt company, and, on a regiment going on service, would be promoted double-company commander. The depôt company would recruit up to double-company, and a second officer would be added from the furlough reserve.

In peace, 1 commandant, 2 wing commanders, 1 adjutant, 1 quartermaster, 4 wing officers, and a surgeon.

In time of war, 8 wing officers.

The wing officers, whatever their rank (they should, if possible, be captains and subalterns), should be dismounted *always*. They should command, drill, instruct, and pay, each in peace 2 companies, and in time of war 1 company. They should keep the sheet-rolls, books, and accounts, &c., of their respective companies. Their staff pay should be, if lieutenants, Rs. 100 a month; if captains, Rs. 150 a month; and if majors, Rs. 200 a month. The 2 wing commanders should get Rs. 250 a month each. Subadars and jemadars would not become nonentities under this arrangement. On parade they would act as guides, &c.; and in the lines be responsible as heretofore for the good behaviour of their men. But companies must be led by European officers; therefore it

Captain H. D. Hutchinson, 10th Native Infantry.

would appear wise to make them practise in peace duties which they must perform in time of war.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

The establishment of British officers per battalion should be—

1st battalion.

- 1 lieutenant-colonel commanding.
- 1 field officer second-in-command.
- 5 captains.
- 5 lieutenants.
- 1 lieutenant and adjutant.
- 1 lieutenant and quartermaster.
- 1 medical officer.
-
- 15 officers.

2nd battalion.

- 1 lieutenant-colonel commanding.
- 1 field officer second-in-command.
- 4 captains.
- 4 lieutenants.
- 1 lieutenant and adjutant.
- 1 lieutenant and quartermaster.
- 1 medical officer.
-
- 15 officers.

(a) The appointments of commandant, adjutant, and quartermaster to be five-year appointments in order to secure promotion and efficiency. Captains to command double-companies, assisted by lieutenants, and to conduct musketry instruction, &c.

(b) It will be observed that an extra captain and lieutenant are provided for first battalions; these officers, the juniors of their respective grades, would be entrusted with the charge and training of the reserves, to be noticed further on.

(c) The regiments would be composed of linked battalions—

		Present.
1st Regt., G. R. Brigade ...	1st Battalion	1st G. L. I.
	2nd Battalion	4th Goorkhas.
2nd Regt., G. R. Brigade ...	1st Battalion	2nd Goorkhas.
	2nd Battalion	3rd Goorkhas.
3rd Regt., G. R. Brigade ...	1st Battalion	5th Goorkhas.
	2nd Battalion	To be raised.

The battalions would be located, as at present, at Dharmasala, Bakloh, Dehra, Almora, and Abbottabad, respectively, the regimental head-quarters and training-grounds for reserves being at Dharmasala, Dehra, and Abbottabad.

(d) The promotion of officers would run in the linked battalions, abolishing staff corps promotion rules.

(e) In time of war the sedentary battalion would at once reinforce the active battalion with 1 field officer, 2 captains, 2 lieutenants, the commandant of the sedentary battalion remaining in charge of the head-quarters of his battalion, the reserves, and depôt of service battalion. The junior captain and lieutenant of the first battalion, should it be its turn for service, would remain in charge of their regimental depôt and of the reserves.

The battalions would stand as follows:—

	Comdt.	F.O.	Cpts.	Lieuts.	Staff.	M. O.
Service battalion	1	2	6	6	2	1
Sedentary battalion	1	...	2	2	2	1
Reserve staff	...	...	1	1	...	...

(f) I have not lost sight of the fact that the changes I propose entail considerable extra expense on the State, particularly the raising of another Goorkha battalion and the increase in the number of British officers; but as Goorkha regiments are so prominently employed on active service, it may be considered advisable to place them on the most efficient war footing.

(g) If, in the face of experience, it is still maintained that the present system of officering the Native army is satisfactory, the scheme detailed would be objected to on the score of the expense of the British officers.

I am of opinion that the present system, if persevered in, will, on the first occasion of serious warfare, lead to the most disastrous results.

The matter has so often been ably and exhaustively discussed, that it is useless entering into it here; but I would remark that all late experience goes more and more to prove that the present number of British officers is quite insufficient for a regiment on service. Even with the most trivial war, losses in conjunction with the inevitable wear and tear of campaigning, regiments have in the late expedition been almost denuded of officers; and it cannot for a moment be contended that the Native officers are as yet competent to fill their places; and should they ever be fit to do so, I think their substitution is a very questionable, if not most dangerous, policy. At present, on every occasion of actual service, even when the smallest party of men have been detailed, the demand invariably is for a "British officer to command." Luckily, with no war casualties to speak of, and by calling on other regiments officers have as yet been forthcoming,* but provided with difficulty, and strangers to the men. The system is an utterly insufficient one, and even in peace time is bad. Wing commanders, generally field officers of considerable standing, linger on in positions which degrade their rank, and are supposed to exercise a control over four companies and conduct musketry instruction—duties delegated in British regiments to from 12 to 8 officers and a musketry instructor. It is true they are supposed to be assisted by one subaltern officer each and by Native officers; but in the present constitution of regiments the former is invariably either officiating as adjutant or quartermaster in room of an absentee, or is a youngster received from a British regiment, and his time completely engrossed in studying for the qualifying

* In "Malaya" two subalterns of the royal engineers attached themselves to my regiment; in "Afghanistan" three detachments were despatched under command of officers of other regiments,—one an officer of XIIIth Khelat-i-Ghizai Regiment, one an officer of 32nd Pioneers, and one with a medical officer,—although at the time nine officers were fit for duty with the regiment and otherwise employed.

examinations; on passing which he generally is removed to some other corps. As to the Native officers, the fact that they are not considered sufficiently intelligent or trustworthy, as the case may be, to conduct target practice, speaks for itself.

(4) As the subject of Native officers is so intimately connected with British officers, I would here remark that I have allowed one Native officer per company (see table appended, answer 1, page 630), as I consider with British officers one only is necessary. He would be answerable for the interior economy of his company and be a link with the Native ranks. He should be raised to the grade of Native officer, and styled "subadar," by careful selection for merit.

There would be 8 Native officers in each battalion—

4 at Rs. 100 per mensem.
4 at Rs. 80 per mensem.

Their pensions would remain as at present; and in very exceptional cases and for peculiar efficiency individuals might, on passing such tests as may be laid down, be raised to the rank of lieutenant, and receive the pay of that rank; but in all such cases they should be removed from their regiments, and employed as transport officers or in recruiting in Nepal, &c., charge of depôts, reserve, &c.

Major A. Batty, 2nd Goorkhas.

Ten as under—

1 lieutenant-colonel	...	commandant.
1 major	...	second-in-command and wing commander
1 major	...	wing commander.
2 captains	...	commanding double-companies.
2 lieutenants	...	commanding double-companies.
1 lieutenant	...	adjutant.
1 lieutenant	...	quartermaster and musketry instructor.
1 lieutenant	...	for reserves and depôt.

Total 10

The appointment of musketry instructor could be given to either of the officers commanding double-companies, the quartermaster, or the officer told off for the reserves and depôt, whoever showed most fitness for it.

Major F. F. Rowcroft, 4th Goorkhas.

Ten officers, distributed as follows:—

Commandant, second-in-command, right wing commander, and left wing commander.

Seven wing officers, of whom *one* would be adjutant, *one* instructor of musketry, *one* quartermaster. Of the other four, two wing officers to be attached to each half-battalion. With reference to the *musketry instructor*, it would seem just as important for a Native regiment to have one as for a British regiment.

Colonel R. Blair, 3rd Native Infantry.

The same as at present, with the addition of two wing officers, distributed as at present. Of the additional officers, one told off as a musketry instructor.

Colonel H. Boisragon, Commandant 4th Sikhs.

Number of British officers per battalion ten, thus:—

1 commandant, lieutenant-colonel.	2 wing officers, captains.
1 second-in-command, major.	2 wing officers, lieutenants.
1 wing commander, major.	1 adjutant, lieutenant.
	1 quartermaster, lieutenant.
	1 medical officer.
	Total 10

Lieutenant-Colonel F. H. Jenkins, Commandant Corps of Guides.

I would keep the present organization, adding one officer to command the depôt.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Nine, not including medical officers, as under—

	Rs.		Rs.
1 commandant, staff pay	600	1 adjutant, pay	200
1 wing commandant and second-in-command, pay	270	1 musketry instructor, pay	150
1 wing commandant and second-in-command, pay	230	1 quartermaster, pay	150
		1 transport officer, pay	150
		2 wing officers, pay Rs.100 each	200

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

I would recommend two more wing officers for each battalion, so as to have a wing officer for each double-company; the present distribution of officers not to be otherwise disturbed.

This complement would admit of the temporary withdrawal of a certain number of officers from battalions not on active service to fill up casualties in battalions engaged in a campaign, and also to supply officers for transport and other departments which have to be made in time of war.

Major R. B. P. Campbell,
(Queen's Own) Corps of Guides.

Major A. G. Ross, Command-
ing 1st Sikh Infantry.

Colonel A. Jenkins, Command-
ant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

Colonel G. Hearn, Commanding
16th Madras Native Infantry.

Colonel L. W. Buck, Com-
mandant 20th Madras Native
Infantry.

Colonel W. A. Gibb, Command-
ant 25th Madras Native Infantry.

I would make no change in the present system in this respect.

Twelve, not counting the medical officer—

- 1 commandant.
- 1 second-in-command.
- 4 captains commanding double-companies.
- 4 subalterns, posted one to each double-company.
- 1 adjutant (subaltern).
- 1 quartermaster (subaltern).

Eighteen European officers, *viz.*, 1 commandant, 2 wing command-
ers, 4 double-company commanders, 8 subalterns, 1 adjutant, 1 quarter-
master, 1 surgeon.

The following number of European officers would, I consider, be neces-
sary for a battalion :—

- 1 commandant.
- 2 wing commanders.
- 2 wing officers, one of whom should be musketry instructor to
the battalion.
- 1 adjutant.
- 1 quartermaster.
- 1 medical officer.

It will be observed that I have fixed the number of European officers
required for a battalion the same as the present establishment for a
regiment, and I do so for this reason, that less than seven combatant
officers would not be sufficient for a regiment or a battalion, when it is
borne in mind that of the present establishment of seven European
officers, it is seldom that a regiment has more than four officers available
for duty, besides the commandant. After deducting for officers on
furlough or sick leave, and although the places of these officers on
furlough or sick leave are taken by acting men, yet it frequently
happens that a regiment has no more than four officers available for
duty; and if the strength of European officers to a battalion were fixed
at less than seven, this state of things would be worse, and the strength
would be a mere nominal one.

I would recommend that the European officers of a battalion be dis-
tributed in the following manner. The designations of commandant
and wing commanders sufficiently explain themselves. There would be
one wing officer to each half-battalion to assist the wing commander in
all his duties; and one of these two wing officers should be musketry
instructor to the battalion, and should possess a first-class certificate in
musketry; and an extra allowance should be granted to this officer
during the time that he is engaged in the musketry instruction of the
battalion; and all the companies of the battalion should be put through
the annual course of musketry under the supervision of this officer, who
should prepare all returns, &c., in connection therewith.

The same as at present. I have served under the old and new sys-
tems. I much prefer the present system. The number of European
officers is quite enough, but inefficient men should be removed the same
as in other staff appointments. Regiments are in better order now than
they were with a large number of European officers.

Seven combatant officers, distributed as follows—one commandant,
one officer to be in charge of every two companies, one adjutant, one
quartermaster. A battalion proceeding on field service to have two
additional subaltern officers.

Supposing the present so-called irregular system be retained, there
should be in time of peace at least eight British officers with a battalion;
and this number should be kept up, and any officer leaving for more
than two months' privilege leave should be at once replaced from a
reserve, which at present does not exist. The above number of British
officers is sufficient for the regimental works; but in large stations it is
not enough for the garrison work. In such stations the officers of both
British and Native battalions are too much harassed with courts-martial,
committees, and boards of all sorts, field offices of the day, &c., &c.
These exist to the same extent, if not to a greater, as when there were
three times as many officers with a Native battalion and more also with
a British. Officers are constantly away from their battalions when they
ought to be with them, and regimental work is in consequence often
slurred over; and I think that a feeling of disgust on this point is very
prevalent. In my opinion it would be far better to return to the old
system, and have a lieutenant-colonel commanding, major second-in-com-
mand, eight captains, one for each company, and five subalterns. Pro-
motion to go regimentally, which the officers should be encouraged to

purchase on the old Indian system by Government lending the money at a low rate of interest, say 4 per cent. With improved pensions, this would cause a flow of promotion without additional expense to Government. A small sum in ready money, besides a pension, would induce officers to retire. In war at least two additional British officers should be posted to a battalion; but it is difficult to say how they are to be distributed. More than four mounted officers on parade are only in each other's way, except in the new attack, when places are assigned for six, but they would be on foot. Ten officers would not be too many to start on a campaign with. They soon get used up with wounds and sickness. I am quite in favor of a large number of British officers with a Native battalion, in the field at all events; and if we do not have them in cantonments, we cannot have them in the field, for there is no reserve whence to draw them.*

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Infantry.

One field officer commanding, one captain to each company, and one adjutant and one quartermaster.

This would give eleven European officers with the present number of companies (*eight*) or seven European officers to a battalion of four companies.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

As at present constituted, the number of European officers is insufficient, even if all are really good officers. There is no margin for sickness or furlough; and in time of war, when European officers would be absolutely necessary, the want would soon make itself felt. I think there should be one European officer to each double-company, besides the adjutant and quartermaster of the regiment. There would thus be six wing officers instead of four. Commandant and wing commanders to remain as at present, but some system of selection should be adopted. I consider an inefficient wing commander under the present system does more harm even than an inefficient commandant.

Major E. Faunce, Commanding 14th Madras Native Infantry.

- 1 commanding officer.
- 1 major.
- 8 captains.
- 7 subalterns, of whom one adjutant.
- 1 warrant officer, as quartermaster.

The duties of quartermaster might with advantage be performed by a warrant officer. They are of a nature more suited to the warrant than to the commissioned rank, and are not of so responsible a kind as to require a highly paid officer. A warrant officer on Rs. 150 a month could well do them. If, however, the present organization as respects officers is to be maintained—

- 1 commanding officer.
- 2 wing commanders.
- 6 wing officers.
- 1 wing officer as adjutant.
- 1 warrant officer as quartermaster.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

In replying to this question, the reasons which lead to the adoption of the present system of officering Native regiments must not be lost sight of. These were, I believe—

1st.—The desirability of raising the emoluments attached to the performance of regimental duty, so that these appointments might compete in some degree with civil employment, and so induce good officers to remain with regiments, instead of, as was formerly the case, seeking employment in civil departments, where they were more highly paid.

2nd.—The financial necessity for a reduction in the number of officers, consequent on the proposed increase of pay.

3rd.—To provide a sufficient amount of work and some responsibility, varying according to his regimental position, for each British officer with a regiment.

4th.—To allow of certain duties and responsibilities being assigned to, and required of, the Native officers.

Although this method of officering Native regiments has been somewhat complicated by the results of the system of staff corps promotion, it has on the whole, I consider, worked well; and, bearing in mind all the requirements of the case, is, in my opinion, better than any other system which could be devised. In reply to query 1, I have proposed the addition to each regiment brought up to the war strength of two wing officers, as I think the present establishment of officers, though ample for peace time, would prove insufficient to meet the casualties likely to occur in a protracted war, and one officer would be required to remain at the depot of each regiment. The difference in the emoluments enjoyed by officers in regimental employment now, and those they formerly received, is conclusively displayed in the annexed table, which shows the number of officers regimentally employed is the years

* Note.—At Delhi the 2nd Goorkhas lost—killed three lieutenants, wounded one major, one captain, and three lieutenants; total loss nine. During the mutiny the 4th Punjab Infantry had from first to last 13 officers attached to it, and had 11 or 12 of these killed or wounded.

Statement showing the number of European officers regimentally employed in the Bombay Army during each of the undermentioned years, and the annual charge for their pay and allowances.

Year.	Number of officers regimentally employed, including officers of the staff corps serving with Native regiments.	Total annual charge for pay and allowances.	Average annual emoluments of each officer.
		£	£
1857 ...	651	216,428	333
1858 ...	649	242,956	374
1859 ...	632	229,107	363
1860 ...	644	227,434	353
1861 ...	626	223,292	357
1862 ...	443	176,902	399
1867 ...	305	161,208	529
1878 ...	299	183,669	615

found doing subaltern's duty; but where this is so, the fault rests with the staff corps system of promotion, not with reduced officering of regiments. It is also worthy of notice that, previous to the establishment of the staff corps and of the present organization, officers who now complain of being required as field officers* to perform subordinate duties would probably have only been captains receiving captain's pay, and performing duties not at all dissimilar to those now required of them as wing officers. If it were possible to avoid it, it certainly is not desirable to have field officers performing the duties of wing officers; but as long as the staff corps system of promotion is maintained, cases of this kind must, from time to time, occur. Another important advantage in the present plan of officering regiments is that it necessitates, or ought to do so, a proper share of the duties being assigned to Native officers. In this matter I think there is room for much improvement, as it seems to me to be too readily accepted that Native officers are no use, and cannot be made useful; and assuredly they never will be so, unless a beginning is made towards requiring of them intelligent service, and dealing summarily with those who either cannot or will not yield it. Until recently there were in this army a large number of old and effete Native officers; but the recent regulation, which granted pensions after 32 instead of 40 years' service, has enabled the Commander-in-Chief to require commanding officers to dispense with the services of all such useless men, and to infuse a new and younger element into the Native commissioned grades. To recapitulate my reply to this question, I would say—

- 1st.—That seven officers are ample in time of peace for the efficient performance of the very moderate amount of work devolving on the British officers of a Native regiment, and that it would be detrimental to efficiency to increase the number at the cost (which it seems would be an absolute necessity) of reducing the emoluments now given to each individual.
- 2nd.—That an increased effort should be required of commanding officers towards elevating and utilizing their Native officers.
- 3rd.—That on a regiment being raised to the war strength, the establishment of British officers should be increased by two.

Brigadier-General A. B. Little,
Comdt. 25th Bo. N. (Light) I.

As mentioned in answers 1 and 2.

Colonel S. Edwards, Com-
manding 2nd (Prince of Wales')
Own Grenadier Regiment, Bom-
bay Native Infantry.

1 lieutenant-colonel	...	commanding.
1 major	...	second-in-command.
3 captains	...	commanding divisions or double-companies.
3 lieutenants	...	of divisions.
1 lieutenant	...	adjutant.
1 lieutenant	...	quartermaster and paymaster.
2 or 3 sub-lieutenants.		

Colonel W. Bannerman, 4th
Bombay Rifles.

Eighteen, namely, one commandant, one second-in-command, one wing commander, one captain, and one lieutenant with each company, inclusive of 1 captain as paymaster, 1 lieutenant as adjutant, 1 lieutenant as quartermaster, and 1 lieutenant as instructor of musketry.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native In-
fantry.

Twelve,—one commandant, one second-in-command, four captains, four lieutenants (one of each rank to each double-company), one adjutant, one quartermaster, who should also be paymaster.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

Peace establishment.

War establishment.

1 commandant.	1 commandant.
2 wing commanders.	2 wing commanders.
1 adjutant.	1 adjutant, 1 quartermaster.
1 quartermaster.	8 wing officers (captain and sub-terns).
1 musketry instructor.	2 medical officers.
2 subalterns.	
1 medical officer.	

Each company should have its British officer on service, and I would have them all on foot.

* Receiving the pay of field officers and a staff allowance.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

1 commandant.
1 second-in-command.
1 wing commander.
Total ...

1 adjutant.
1 quartermaster and paymaster.
6 wing officers, one to each company.
11 European officers.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

The safety of our Native army in war time depends upon its European officers; and for that reason the present number (seven), though suitable in garrisons, is utterly inadequate for the strain that would then be put upon it. At the very least two additional subalterns should be appointed to one out of every two battalions of the army, the remainder retaining their present number.

The distribution of these would be—

1 commandant.
2 wing commanders (holding the same position as majors in a European regiment).
1 adjutant.
1 quartermaster (who should also act as musketry instructor) (all these being mounted).
4 battalion officers, dismounted; each to command a half-company on parade, and to perform all duties connected with the interior economy of their companies, &c., &c., as before the late organization.
1 medical officer.

Total 10 officers.

In war time I would attach two more officers from a battalion not proceeding on service to replace casualties.

Colonel A. Carnegie, 21st Bombay Native Infantry.

In the first place I consider that each battalion on the peace establishment should be sub-divided into three grand divisions, or double-companies, and for duty therewith there ought to be twelve European officers, distributed as follows:—

1 colonel, commandant.	} 3 lieutenants, and 3 sub-lieutenants, being one sub-altern per company. 1 lieutenant and adjutant.
1 major, second-in-command.	
3 captains, one for each grand division.	

One of the subalterns should act as quartermaster and paymaster in addition to his other duties, the adjutant being entirely relieved of the paymastership.

Sixteen—

1 colonel or lieutenant-colonel commandant.
2 lieutenant-colonels or majors.
6 captains,—one for each company; nothing less will do to insure bringing out the full fighting qualities of a company of Native soldiers.
6 subalterns, thus—
1 the best drill adjutant *only*.
1 the best accountant, pay and quartermaster.
1 the best musketry instructor.
3 others to fill vacancies caused by men on the sick list, furlough and temporarily transferred to the staff; but there should be not less than 13 European officers, including the medical officer with a regiment in time of peace, and not less than 16 in time of war; then one could be spared to look after the baggage of the regiment when the quartermaster was taken up with other duties, such as marking out the ground for encamping, &c.
1 medical officer.

Total 16

Lieutenant-Colonel O. V. Tanner, 29th Bombay Native Infantry.

With the battalion on service there should be 11, *viz.*—

1 lieutenant-colonel.	} 4 captains. 4 subalterns.
2 wing commanders.	

These might be slightly reduced in garrison.

5. Do you consider that it would be an advantage to have regiments of two, three, or four battalions?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

I consider a regiment of two battalions would be most advantageous, both on the score of efficiency and economy.

Colonel H. S. Oblard, Commandant 31st Bengal Native Infantry.

I do not think it would be an advantage to have regiments of two, three, or four battalions as regards army organization; and the massing of battalions would, I think, be dangerous politically.

Colonel T. Boisragon, Commanding 20th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieut.-Col. R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel T. B. Norman, Commanding 21st Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

I see no advantage in more than *one*-battalion regiment, *provided* they are *CLASS* regiments. The first reserve, of the same *CLASS* regiment, *which was not under orders* for recruits, could be made available to complete vacancies, &c., and to take the place of recruits of the regiment *ordered on service*. The regiment of two or three *battalions* might have its battalions scattered all over India at the time that any one of its battalions required accession of strength.

Three corps as at present constituted to be formed into one regiment of two battalions. There are available then for the above purpose (including additional musketry instructors) 22 European officers and 1,800 sepoys.

I think it would be advantageous to have regiments of two battalions each. When one battalion was engaged on service, or ordered into the field, its complement could always be made up from the other battalion, as also replace at the end of the war all casualties that had occurred in the battalion. In fact, it would act as its reserve battalion when the other went on service.

I consider the regiment should consist of a *dépôt* and two battalions, the two service battalions being capable of expansion into four battalions, as already explained in the preceding page of this report.

I object to regiments of more battalions on the following grounds:—

- (a) The cadres of officers would become too large.
- (b) The district from which a regiment is recruited would become inconveniently large for training purposes and for mobilization of reserves.
- (c) The number of units for recruiting would be reduced, whereas our object on political grounds should be to have as many units as are compatible with economy. This point is more fully treated in answer 10.

I consider it would be highly advantageous to have regiments of three linked battalions, for reasons given in the three following replies (to questions 6, 7, and 8).

No; I am of opinion that a system of single battalions with two reserves, as recommended hereafter, would be more suitable to the Native army.

Yes, it would be an advantage to have regiments of two battalions.

I consider that every Native infantry regiment should consist of two battalions—a service and a *dépôt* (or sedentary), the former on a permanent war-footing of 800 men, the latter on a peace establishment of 600 to be increased if necessary in time of war.

Yes, provided that the battalions were composed of similar classes. I would recommend that each regiment should consist of four battalions.

I have always been of opinion that a satisfactory system of regimental promotion is scarcely possible in regiments in which there are only seven officers. What is looked for and desired by the officers of an army is a reasonable flow of promotion, by which each officer may hope in a certain time to attain a certain position. It can scarcely be considered satisfactory when the position of wing commander may be held by a captain in one regiment, and by an old staff corps lieutenant-colonel in another; and yet such is possible if the system of regimental promotion be applied to the present establishment of seven officers in a battalion.

I am therefore inclined to think it would be better to have regiments of two or three battalions, the promotion to go in regiments not in battalions. I am aware that objections to this have been urged from time to time, but I think they have been much exaggerated.

It would, I admit, be objectionable to move an officer who has served continuously with Hindustanis to a Punjab regiment, or to one composed exclusively of Sikhs or Goorkhas, and *vice versa*; but I cannot see any objection to the transfer of an officer from one regiment to another composed of the same classes, and in which it will be found the men come from the same districts and even villages as those with whom he has been accustomed to serve. There would be no difficulty in arranging this.

The wing commanders and wing officers of a regiment are, as a rule, brought into such constant contact with their men, that they soon learn all about them and their interests.

The fact of my own recent transfer from one Punjab infantry regiment, in which I had served eleven years, to another of the same class may perhaps give me a claim to some experience from which to speak in connection with this question, and it is this which enables me to say the objections to such transfer have been exaggerated.

Lieut.-Col. G. C. Rowcroft, 35th Native Infantry.

Of two battalions only.

Lieutenant-Colonel F. M. Armstrong, 45th (Battray's Sikhs) Native Infantry.

I see no great advantage to be derived from this.

Major R. S. Robertson, 4th
Native Infantry, Officiating
Assistant Adjutant-General,
Allahabad Division.

I am of opinion that regiments should be linked together in two or three battalions. I am not sure which number would be most suitable, but let two be taken as a tentative measure. The advantages which I claim for this system are not only those connected with the promotion of European officers, though some advocate its introduction chiefly on these grounds, but by the adoption of such a plan it is obvious that, when a force is organized for service, one battalion can be sent into the field made up at once to full strength by the other, which acts as a feeder, supplying the battalion to which it is coupled with additional officers and men either for immediate service, or to fill up the gaps caused by casualties. It would of course be most desirable that these duties should be taken by each battalion in turn. In theory, this system of linked battalions seems to me to work very easily. For instance, take two Punjab regiments, which by the introduction of this system have been linked together. The 1st battalion is stationed at the fixed head-quarters—say Jullundur—and has a certain area assigned to it within which its recruiting is carried on. The 2nd battalion is quartered at Lucknow. A force is suddenly ordered on field service, and the 2nd battalion is directed to join it. The 1st battalion instantly sends about 250 thoroughly trained soldiers to the 2nd battalion at Lucknow, completing its full war complement, and at the same time calls out its reserves, the greater proportion of which are stationed within the recruiting area and readily obtained. The sick and weakly men are sent from the 2nd battalion to the 1st, which serves as a dépôt. In this manner both battalions are made up to service strength: the one fully equipped for a campaign, the other ready to support it. It is true that this system in all its integrity can only be applied to what we call Punjab regiments, or to those regiments which are recruited in the North-Western Provinces and Oudh. To the Punjab regiments it seems particularly suited, composed as they are, or ought to be, of about an equal number of Sikhs and Punjabi Muhammadans, with a small proportion, one-eighth, of Dogras and Pathans. It is clear, then, that when a Punjab regiment is quartered in the Punjab, it is within the area from which the greater proportion of its recruits are drawn, the Pathan element, for obvious reasons, not being taken into account. In like manner a mixed regiment, like the 4th Native Infantry, would, if stationed in Oudh, be in the centre of its recruiting area. This system, however, would not be applicable to those regiments which are recruited from districts widely separated from each other; but they are few in number, amounting, exclusive of the Assam regiments, to about ten, and in point of fact are seldom, if ever, sent on service.

Major R. A. Wauchope, 14th
Sikhs.

Each regiment to consist of four battalions.

Major A. C. W. Crookshank,
32nd Pioneers.

Certainly no present advantage. And there never could be any, unless all the battalions were of the same class, to produce which would necessitate a complete dislocation of the whole army, which I would most strongly deprecate, as calculated to completely upset the minds of the Natives and produce uneasiness and discontent. Had it been thought of at first, and the battalions so arranged and numbered, it might possibly have answered, but now it would be the reverse, and so far as the men are concerned the linking would be merely nominal and confined to the army list. The Sind Horse and Central India Horse are examples of linked battalions; but so far as the rank and file are concerned, they might as well be single regiments. To link regiments of different classes would be meaningless, as the men would not be interchangeable.

Captain H. D. Hutchinson,
40th Native Infantry.

No, I would have a system of linked battalions. When a regiment is ordered on service, it should receive at once, from its linked battalion, officers and men, with their accoutrements, arms, and clothing, complete to bring it up to its full war strength; and in return it should make over to it all its recruits and ineffectives. There would be five officers left with the battalion remaining behind, *viz.*, the commandant, two wing commanders, adjutant, and quartermaster, quite enough to carry on the duties efficiently, which at such a time would be chiefly the entertaining and training of recruits. On the other hand, the battalion starting on active service would be fully officered and manned, and proportionately efficient.

Colonel R. Sale Hill, Commanding
1st Goorkhas (Light Infantry).

Vide answer 4.

Major A. Battya, 2nd Goorkhas.

No. On the contrary, I see many drawbacks. Two battalions are practically two separate regiments; frequently being transferred from one battalion to the other would have much the same effect as going to another regiment. Officers and men would not know each other as they should; the officer would take less interest in his men. No one would feel that his battalion was his home. *Espirit de corps* would suffer. The system would be particularly disliked by the Natives, who wish to make the battalions of their choice their homes as long as they remain in the army.

Major F. F. Rowcroft, 4th
Goorkhas.

I think it would be advantageous to have each regiment of two battalions. One battalion ordered on active service could be increased to war strength from the other battalion.

Colonel R. Blair, 3rd Native
Infantry.

On the whole, I consider the advantages are on the side of the present system.

Colonel H. Boistragon, Commandant 4th Sikhs.

Regiments of three battalions, *viz.*, 1st in the first, or fighting, line, and ready always for immediate service; 2nd, its reserve to feed it at once on any sudden emergency, or on account of war vacancies; 3rd, invalided men, only to be called out when absolutely necessary. Strength of 1st battalion, as answered in question No. 1; that of No. 2, half that of No. 1; of No. 3, half of No. 2.

No. 2 battalion could always supply No. 1 up to 800 sepoys, and other ranks in proportion, and No. 3, No. 2; but this should seldom be necessary, if No. 2 always maintained its full complement and recruited directly it was below its standard; however, if any sudden and unforeseen emergency absolutely necessitated No. 3 feeding No. 2, it would assist in bearing the first brunt of the shock of arms, would only be temporary, and until No. 2 could supply No. 1 with men.

Lieutenant-Colonel F. H. Jenkins, Commandant Corps of Guides.

The present organization seems to work well, and I would not change it, unless it can be clearly shown that some great advantage as regards efficiency or cheapness will be gained by the change. It is easy to make battalions on paper, but I do not think it would be wise to upset the organization of the army on theoretical grounds, because, under any system, it will take years to make the new battalions as efficient as those we have now.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Yes, of four battalions.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Yes, regiments of three battalions, the men to be transferable from one battalion to another, so that, on the outbreak of a war, one or two battalions of a regiment could at once be placed on a war footing.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

If this means linking existing regiments together, I cannot see any advantage in making such a sweeping change in the organization of the Native army. If carried out, it would not get into proper working order until the present generation of men had passed away, if even then. The present regimental *esprit de corps* would be destroyed, and there would be constant jealousy between the different battalions, who had each been trained under different commanders, and perhaps utterly different circumstances and associations.

Major A. G. Ross, Commanding 1st Sikh Infantry.

Three battalions.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

There would be no advantage in having regiments of two, three, or four battalions; for the battalions would be so separated, and so long apart, that the officers of one battalion would be entire strangers to the men of the other battalions, and would have no influence with them at first.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

This has already been partly answered in No. 1; but should it be determined on to divide regiments into battalions, I see no advantage to be gained by dividing them into more than two battalions.

Colonel G. Hearn, Commanding 16th Madras Native Infantry.

A regiment should consist of two battalions—right and left battalions. The head-quarters should be fixed for ten years: one battalion should be sedentary and be the reserve of the other. The complement of European officers to be the same as at present, except there should be one commandant, one adjutant, one quartermaster, one Native adjutant, and one havildar-major. When a battalion is detached, the commandant of the battalion to receive full command allowance, and required staff to be appointed. The two battalions to be stationed together. For service or foreign service, efficient men to be selected from the regiment. None but strong, healthy men would be sent on service or foreign service: there should then be few deaths on foreign service and consequently much fewer pensions to heirs.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

I consider it would be advantageous to have regiments of four battalions; men could be drafted from one to another for service.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

I cannot say that I see any advantage to be gained by having regiments of two, three, or four battalions.

Lieutenant-Colonel F. H. Tyrrel, 37th Madras Infantry.

All the great military powers of Europe have adopted the system of four battalions to the regiment: with their enormous hosts of men it is absolutely necessary to have the administrative unit, *viz.*, the regiment, as large as possible to reduce friction; and the same reason applies in a lesser degree to our smaller army. The system has also tactical advantages.

When battalions of one regiment are brigaded together in the field they work well together, owing to the influence of *esprit de corps* and comradeship, and the officers all know each other, which is a great advantage.

Then a regiment with three or four battalions contains its depot in itself: one of its battalions can always be made into a depot for the others.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Yes, I consider that a two-battalion regiment would certainly be an improvement on the present system; one would act as a feeder to the other when on service.

I would have regiments of two battalions, all ranks being interchangeable, enlisted for the *regiment*, and liable to transfer from one to the other on occasion of war, or in any case as required. Battalions ordered to the front on the outbreak of war would be at once raised to full strength of 800 privates from the other battalion of the regiment which would receive, and replace, men of all ranks—medical units, recruits, &c.—that could not accompany their own battalion. Battalions proceeding to Burma or to distant stations could be filled up in the same way, taking with it only effective men. Madras regiments in Burma and at the many stations north of the Kistna are far removed from their natural recruiting ground; were they divided into two battalions, and moves properly regulated, the battalion in the south would recruit for the other, as also in case of war. The raising the strength of regiments to a war footing need cause no increase of Native infantry officers; companies of 150 men are none too large for service and would speedily be reduced to less than 100. When my regiment came to Calcutta in November last year, having shortly before discharged to pension a large number of men, it could only bring 493 privates, allowing for depot, &c. Since then the effective strength with the colors has been reduced to 467 privates; had we had a second battalion this would not have occurred. In the same way, when the 25th Madras Native Infantry went to Malta, the 21st, 30th, and 36th Madras Native Infantry to the North-Western Frontier, they had to be filled up by volunteers from many regiments: much time, trouble, and inconvenience would have been saved had there been second battalions. Natives, Madras Natives at least—and throughout I speak only of Madras, not knowing anything of the Bengal soldier—are very conservative in some things. Nothing, I believe, has done the Madras army so much harm and been so detrimental to recruiting and *esprit de corps*—strongly felt by the Madras sepoy—as the constant change of officers. The best men will not *volunteer*; but if they had a connection with another ^{Regiment} ^{Battalion} and its officers, they would most readily be transferred. To instance this feeling, when the 25th Madras Native Infantry were ordered to Malta, over 100 volunteers were asked for from my regiment which had previously volunteered for service in Europe; within an hour and a half of the receipt of demand I reply was sent that 70 odd men would go. On that occasion the men of the wing I then commanded said: "We all want to go, but not as volunteers. Tell us to start now as a regiment and we will go straight to the railway station; but why should we 14th go and earn a good name for the 25th? If you will promise we shall wear our own facings, our own cap number even, we are ready to go." And those that did volunteer for 25th made a request that one of the *European* officers (two Native officers had volunteered) might go with them, in order, they said, to look after them, as volunteers were always looked down on by officers of other regiments—"Oh! he is not one of *ours*, but a volunteer from —."

There is foundation for this feeling amongst the men.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

A measure such as that indicated in the above questions seems the only possible method of dispensing with the staff corps system of promotion, and carrying on promotion regimentally. Except with this object in view, I see no advantage in the suggested arrangement; and inasmuch as it would have the effect of transferring officers from one regiment to another, there would be some force in the objections which would be urged against its adoption on this score. I do not however consider this objection at all insuperable, as such transfers would only happen at considerable intervals, and seldom affect more than one officer on each occasion. Regiments thus linked together should be composed of similar elements, in order that an officer transferred on promotion from one battalion to another would have nothing to learn as to the habits and customs of the men with whom he had to deal. Although it would be possible to amalgamate the lists of British officers of four regiments for the purposes of promotion (transfers only being made on the occurrence of substantive steps), I would not recommend any intimate connection between the Native ranks of the regiments, believing that the more each regiment of the Native army is kept distinct and separate from the others, the better for the safety and loyalty of the whole.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Infantry.

In answering these two questions (5 and 6), as I do, together, it is, I take it for granted, to be understood that the staff corps is a thing of the past, and that a new system is sought for to regulate the promotion of officers, otherwise I do not see any object to be gained in creating regiments of two, three, or four battalions.

In creating regiments by more than one battalion, I think it should first of all be decided what number of officers should be with *each* battalion, then, according to that number would I link battalions. Thus, if a battalion has seven officers, then I would link four battalions to form a regiment, having a total of 28 officers.

If a battalion was to have 11 officers, then link two battalions, making a total of officers in that regiment of 22. Officers thus of the two or more battalions might then be borne on one list for promotion.

Yes, of three battalions; but I consider brigades of infantry of three regiments far more preferable. By this arrangement the identity of regiments would be preserved,—a matter of great consideration with the Natives who are very proud of the achievements of their corps.

The regiments of a brigade to have all their clothing and equipments exactly similar.

I do not consider that it would be an advantage to have two, three, or four battalions in a regiment.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

Colonel W. Bannerman, 4th Bombay Rifle.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

I consider that a regiment might with advantage be formed of two battalions, one only of which would be sent on service at one time, the other supplying men required to make it up to its war establishment, and also taking charge of its dépôt and families.

These linked battalions should frequently be brigaded together; and when not in the same brigade, should be located in neighbouring stations, the object being to strengthen the connection between them as much as possible.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

I am doubtful if the breaking up of regiments into battalions will be advantageous. For efficiency generally I consider *separate* regiments (if strong enough) best but, as regards economy, the battalion arrangement would perhaps enable a smaller force to be kept up during peace, which being one of the main objects to be kept in view, a system of two battalions to a regiment would be preferable to three or four.

Colonel B. Mallaby, Commandant 13th Bombay Native Infantry.

If regiments were localized, I can understand that there might be an advantage in having two battalions; but as I am opposed to localization, I see no advantage whatever. If promotion, too, is to go regimentally, it might be well to have regiments of two battalions, as the promotion would probably be more equalized throughout the army if going amongst groups of 22 officers than groups of 11.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Yes, a regiment should be composed of two battalions. On one being sent on service, the other would furnish the additional men and officers required: *vide* replies Nos. 2 and 4.

Colonel A. Carnegie, 21st Bombay Native Infantry.

In continuation of my reply to question No. 4, I consider that a two-battalion regiment would be most efficient should a sudden emergency arise, as I shall now endeavour to prove. The two linked battalions should not, if possible, be sent on service at the same time; but in order at once to bring the fighting battalion up to the proposed war establishment of 500 men, a grand division of two companies from the remaining battalion (which would become the dépôt battalion) with its officers complete would join it, and thus the difficulty which at present presents itself of collecting volunteers from every regiment in the service on any emergency taking place would be obviated. It would become the duty of the dépôt battalion to arrange for filling up vacancies in the fighting battalion as required, and also to take over charge of its families during its absence.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

I consider it would be of the greatest advantage to have regiments of two battalions, so that, when one battalion was ordered on service, it could be filled up to its war establishment at once from the other battalion, not only with efficient non-commissioned officers and men, but also with European and Native officers if required, sick and weakly men being transferred from the first named to the second, thus most effectively completing one battalion, and the other to be turned into a drill dépôt for the time being.

Lieutenant-Colonel O. V. Tanner Commanding 29th Bombay Native Infantry.

Yes, a double-battalion regiment, or two and a dépôt battalion, which latter would have less officers.

6. Should the officers be borne on one regimental list for promotion?

Col. J. Doran, Comdg. 27th P. N. I.

Yes.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I think having all the officers of a regiment of two, three, or four battalions interchangeable, and borne on a general list for promotion, would be decidedly objectionable. I consider personal influence the chief element of success with Native troops; and changing British officers, except under some circumstances, actually injurious. The less British officers of Native battalions are changed the better.

Colonel E. Dandridge, Commanding 40th Native Infantry.

As long as the present system of staff corps promotion obtains, no; for officers who may come into the service hereafter, yes.

Colonel G. W. Fraser, Commandant 30th Native Infantry.

Yes, if regiments are composed of two or more battalions, I consider all officers should be borne on one regimental list for promotion. In this case, however, there would be no necessity for a second-in-command to each battalion.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Yes, promotion running throughout the regiment, as in double-battalion regiments of the line, the places of seconded and absent officers being filled by probationers as now.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infantry.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

trained with it and shown zeal, activity, intelligence, and general fitness in every respect (including knowledge of their men and their language and customs, &c., and of field and office duties) or who have not proved good riders, should be transferred, as the service battalion should be the ambition and reward of all ranks. And in it none but the best officers and men should find, or retain, a place.

In the dépôt battalion army seniority should govern all promotions except to posts of commander, and second-in-command which should go by merit only (as should all transfers to the service battalion), officers where necessary being appointed from the service battalion, or some other of the class, to these two berths.

Every officer on appointment to the Native army should be called on to elect (as far as the exigencies of the service permit) the race (Hindustanis, Goorkhas, Punjabi, &c.) with which he wishes to serve, and with that race he should be required to remain throughout his regimental service, exchanges or transfers from one regiment to another, of the same class or race, being made or permitted as deemed advisable. Thus, in case of severe strain on any one regiment, its vacancies could at once be filled by officers accustomed to serve with men of the race composing it, and not, as now, by officers often utterly ignorant of the language, customs, and prejudices of their men.

Lieutenant-Colonel P. B. Norman, Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Ratnay's Sikhs) Native Infantry.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

The officers would be borne on one list for promotion throughout the three battalions. This would distribute the promotion more evenly than at present; a deserving officer unluckily placed in his own battalion could then be transferred favorably to a sister battalion, without what might otherwise be regarded as a hardship on others.

Except on an emergency, I would change the officers as little as possible, for it is very desirable that they should know their men thoroughly.

In the service battalion the promotion (excepting to posts of commandant and second-in-command which should be open to the commander and second-in-command of the dépôt battalion) should go by battalion seniority. Wing officer to quartermaster, the latter to adjutant and so up; any officer unfit for promotion being unhesitatingly sent back to the dépôt battalion, from which none who have not been thoroughly trained with it and shown zeal, activity, intelligence, and general fitness in every respect (including knowledge of their men and their language and customs, &c., and of field and office duties) or who have not proved good riders, should be transferred, as the service battalion should be the ambition and reward of all ranks. And in it none but the best officers and men should find, or retain, a place.

Yes, provided that the battalions composing the regiments were of similar classes. I would not recommend that an officer who had served a number of years with Hindustanis should be transferred to a battalion of Punjabis or *vice versa*. By the arrangement I propose, this would be obviated.

Yes, for the reasons given in answer 5. I think it would be better to have regiments of two or three battalions, and promotion to go regimentally.

If the staff corps is continued on its present footing, I would have army promotion as at present. *Regimental* promotion to go by the regimental list, saving under exceptional circumstances, such as large casualties in action, notorious incapacity, &c.

If the battalions were of one class, the officer certainly would have the advantage of knowing the habits and customs of the men, but otherwise an officer on transfer to another battalion would be as much a stranger to the men as if he came from any other regiment. It would also lead to constant changes of battalion officers—a thing not to be desired.

As long as the staff corps exists, and the proportion of field officers is so large, I do not consider it practicable to have officers borne on one regimental list for promotion; the inequalities of promotion would be too great, and would inevitably, in my opinion, give rise to discontent. It is a point to be considered whether this system might not be made applicable to those officers who entered the service after 1858; and if the staff corps was abolished from that date, many difficulties in the way of re-organization would be smoothed away, and much unnecessary expense saved.

Yes, and so equalize promotion in the army.

I don't see what would be gained by this, and there would be much loss. At present an officer's interest and *esprit de corps* are confined to his own battalion; in the proposed system it would be spread over three or four. There would be a fostering of a desire to change battalions according as they had popular commanding officers and popular stations. *Esprit de corps* would suffer, and there would be a good deal of battalion cliquism.

I certainly think the system would disturb men's minds, and I don't see that there is any advantage in a man being promoted into a battalion in which he had once served. Native regiments change so much, that an officer might just as well join a new regiment, and in the case of an unpopular officer (and Natives have their dislikes) he had much better join a new regiment than a battalion in which he is known. Transfers would in my opinion, be just as easily effected under the single battalion system.

If, however, Government contemplate the breaking up of the staff corps, then this linking of regiments is the only way to obtain a sufficiently strong cadre for purposes of promotion. But I trust this is not contemplated. The staff corps has very many advantages which will become more and more apparent as time passes on and the normal and originally intended condition of the corps is attained.

Captain H. D. Hutchinson,
40th Native Infantry.

No; on separate lists. Those borrowed by the linked battalion in time of war would return to their own battalions in time of peace.

Col. R. Sale Hill, Commanding
1st Goorkhas (Light Infantry).

Vide answer 4.

Major A. Battye, 2nd Goorkhas.

I would altogether condemn the two-battalion system.

Each regiment, as it is, should be kept separate, and its members permitted to preserve its history, services and associations intact, for these are great incentives to *esprit de corps* and should not be hastily wiped away. Every measure which tends to lessen *esprit de corps* sows the seeds, however few, of misbehaviour in the hour of trial. However many officers there may be in a battalion, there is no reason why the staff corps system of promotion should not be made to answer, if the pension and leave rules agreed more than they do. For instance, if an officer took all the furlough he is entitled to, he has to serve longer for his pension. If to furlough he adds occasional general leave, service for pension is prolonged still more. This prevents his retiring as soon as he otherwise could.

I allude to the furlough rules of 1868, as those of 1875 were not made applicable to officers then in the service, who had to re-commence service towards furlough from date of accepting them. If all leave was allowed to count as service towards pension, one deterrent, at all events to retirement, would be removed. But this alone would not be sufficient to always to prevent the possibility of there being a greater number of field officers in a battalion than there was suitable work for. Therefore, the pension rules must be so altered as to allow of more retirements between 20 and 28 years' service. No one will now recommend that promotion should be slower than in the staff corps. If therefore officers of two battalions were borne on one list for promotion, and the result was slower promotion, means would have to be adopted to induce retirement. This can be done just as easily in the staff corps, and officers still kept in their own battalions.

Major F. R. Rowcroft, 4th
Goorkhas.

Yes, certainly.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

Three captains and 3 subalterns should amply suffice for No. 2 battalion, or reserve of No. 1, and the two battalions together would give a total of 16 European officers, *i.e.*, one British officer *per company* to No. 1 *on service*, leaving thus one captain and one lieutenant with its reserve, No. 2 battalion, for recruiting purposes, &c. No. 3, or its invalid battalion, would require no British officers, if the system suggested herein could be carried out. The officers to be borne on one regimental list for promotion.

Lieut.-Col. J. J. Boswell, Com-
manding 2nd Sikh Infantry.

Yes, as in the rifles.

Lieut.-Col. B. R. Chambers,
Commanding 6th P. I.

Yes, one regimental list for promotion of officers.

Major R. B. P. P. Campbell,
(Queen's Own) Corps of Guides.

Vide answer 5.

Major A. G. Ross, Command-
ing 1st Sikh Infantry.

The officers to be borne on one regimental list for promotion.

Colonel A. Jenkins, Command-
ant 2nd Madras N. I.

The officers should be borne on the lists of battalions for promotion

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

The officers should be borne on one regimental list for promotion in the regiment.

Colonel G. Hearn, Command-
ing 15th Madras N. I.

Yes.

Colonel L. W. Buck, Com-
mandant 20th Madras N. I.

And the officers should be borne on one regimental list for promo-
tion.

Colonel W. A. Gih, Command-
ant 25th Madras Native
Infantry.

Whether in one, two, three, or four battalions, I think the promotion of the British officers should go in each battalion, provided they are fit for it, and if not, their services should be dispensed with. There is nothing worse for Native troops, I think, than a constant change of their officers.

Lieutenant-Colonel F. H.
Tyrrell, 37th Madras Native
Infantry.

Yes; I think it would tend to equalize the rate of promotion through-
out the army, and to promote *esprit de corps*, and consequently
efficiency.

Lieutenant-Colonel P. A. Car-
negy, 39th Madras Native
Infantry.

Yes; the more young officers there are to select from for the regi-
mental staff appointments, and more especially that of adjutant, the
better for the regiment. At present there is practically no such thing
as selection; besides in time of war one battalion could supply the other
one with European officers.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 25th Bombay Native (Light) Infantry.

Colonel S. Edwardes, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant, 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner, Commanding 29th Bombay Native Infantry.

7. Do you consider that there should be a fixed head-quarters for the regiment at which each battalion should be stationed in turn?

Colonel J. Dorn, Commanding 27th Punjab Native Infantry.

Colonel H. S. Oblard, Commandant 41st Bengal Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 55th Native Infantry.

Yes, if only for reasons given above this is essential, and the inequalities of promotion to regimental positions would be much fewer with the larger number of officers.

Vide answer 5.

Vide answer 5.

Yes, as follows:—

- 1st brigade, say, grenadiers.
- 2nd " " rifles.
- 3rd " " pioneers, &c.
- 1 colonel commandant with colonel's allowance.
- 3 lieutenant-colonels.
- 3 majors.
- 9 captains.
- 15 lieutenants.
- 9 sub-lieutenants.

The European officers to be on one list for promotion, and exchanged from one battalion to the other when required.

If the battalion system is adopted, the promotion of officers would have to be on one list in each regiment, but I do not consider constant change of officers from battalion to battalion advantageous to a corps; on the contrary to be avoided as much as possible in a Native regiment where officers and men should learn to know one another, as they only can by keeping together.

If the system of promotion by time is abandoned, there seems to be only two other modes by which promotion may be regulated, 1stly, on a general list, and 2ndly on a regimental list. The objection to the first is that it would necessitate constant changes in officers in regiments,—an evil it is impossible to overrate; the second seems the only alternative, and the disadvantage attached to it in a one-battalion regiment of 11 officers I have referred to in answer 6.

Certainly; they would belong to one regiment, and could be transferred, when necessary, from one battalion to the other.

Yes: exchanges being allowed from one battalion to the other, or into the staff corps, on the same conditions as are in force in the home service.

Yes; all the officers to be borne on one regimental list for promotion, and whatever honors and distinctions were won by one battalion to be also bestowed on the other, and this would be an inducement to commanding officers to send their best men on field service. In fact, I would blend the two battalions into one regiment as much as the right and left half battalions are now, with the exception that the commanding officer of one battalion could not interfere with the commanding officer of the other.

Yes; decidedly.

Yes, I consider such an arrangement would facilitate recruiting, and give each regiment a certain amount of local prestige and *esprit de corps*.

I do not. I think it would be a very dangerous system to introduce. But I think it would be a great advantage for each battalion to have fixed head-quarters, that is, if each battalion were a distinct regiment, as at present.

I consider that there should be a fixed recruiting dépôt for each regiment, and that it would be advantageous for corps to be occasionally quartered in the districts from which it is recruited.

In the case of three or more battalions to each regiment, this might be advisable; otherwise I do not see how it could be managed, as it would make regiments virtually local. But a dépôt station for each regiment might be advantageous, where all recruits could be sent on

Lieutenant-Colonel H. Worsley,
Commanding 7th Bengal Native
Infantry.

Lieutenant Colonel P. Harris,
Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Wil-
liams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker,
17th Native Infantry.

Lieutenant-Colonel E. G. Rogers,
Commanding 20th Punjab Native
Infantry.

Lieutenant-Colonel F. B. Norman,
Commanding 24th Punjab Native
Infantry.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native
Infantry.

Lieutenant-Colonel G. C. Row-
croft, 35th Native Infantry.

Lieutenant-Colonel F. M. Arm-
strong, Commanding 45th (Rat-
tray's Sikhs) Native Infantry.

Major R. S. Robertson, 4th
Native Infantry, Officiating Assist-
ant Adjutant-General, Allahabad
Division.

Major R. A. Wauchope, 14th
Sikhs.

Major A. C. W. Crookshank,
32nd Pioneers.

enlistment and be drilled, and where, in time of war, families of the men and heavy baggage of the battalion on service could be sent. An extra company to each battalion as a depot company would have its advantages for this purpose.

The recruiting head-quarters of the regiment should be fixed, and its depot battalion permanently located there. The service battalions should not be localized, though, if convenient, they might with advantage at times be quartered within their recruiting areas. It would be highly inconvenient for administrative purposes to be constantly changing the battalion at the recruiting head-quarters of the regiment.

There should be a fixed head-quarter or depot station for each regiment. This should of course be in the districts from which the regiment draws its recruits, and at it one of the linked battalions should always be stationed. It would be the special duty of this battalion to supply the other two with recruits, and being located in their recruiting fields, the very best men would be procurable. I am of opinion that a selected European officer of the depot battalion should be entrusted with recruiting. The present system of employing non-commissioned officers and men on this duty is very unsatisfactory, and does not result, for obvious reasons, in the best men being enlisted. In time of war the depot battalion would also be able to furnish its sister battalion with officers and men, so that their full war establishment of trained soldiers would be obtained at once, and permanently maintained.

I should recommend that the regiment be localized in or near the district from which it is recruited.

Yes, a fixed head-quarters would be necessary to make the above arrangement of any use.

The depot battalion should have fixed head-quarters permanently located in or at a convenient distance from their recruiting ground. To this the service battalion should never be sent except in ordinary course, and then only to serve with, not in relief of, its depot battalion. An occasional temporary meeting of the two battalions would tend to keep alive *esprit de corps*, and the service battalion men being slightly higher paid as they should be, the knowledge thereof would prove an incentive to the depot men to strive for transfer.

For all class regiments, such as Goorkhas and Muzbis, it is a good plan, but I think it unadvisable for Punjab regiments. I consider it impolitic to localize corps too much.

I am inclined to think it would be better to have a fixed head-quarters for each regiment if composed of two or three battalions, and that each battalion should be stationed there in turn. At this station might be kept the bulk of the regimental records, the arms, accoutrements, and clothing of the men of the reserve.

No, unless it were intended to create territorial regiments, recruited from certain districts *only*. I would recommend that, as far as practicable, both battalions of a regiment should be in the same command. For instance, one at Meerut, the other at Agra, one at Allahabad, the other at Cawnpore or Benares. This of course on the supposition that there is no fixed head-quarters.

Yes, if the system of regiments of two or more battalions is to be carried out, and if these regiments are formed of battalions of the same class.

I consider that it would be most desirable to have one. By fixing the head-quarters within the area in which recruiting is to be carried on, it would greatly facilitate enlistment, and enable commanding officers to obtain a superior class of recruits. It is also necessary for the training of the reserves, the greater number of whom ought to reside within this area.

I think that there should be a fixed head-quarters for the regiment near the recruiting district, and in some of them I would have each battalion of the regiment stationed in turn, but I would avoid having too many battalions of one class in their own country; and in such places I would have a depot consisting of two European officers and some intelligent non-commissioned officers and sepoys from each battalion to drill the reserves and enlist recruits.

This question presupposes a foregone conclusion. I think every regiment should have a fixed head-quarters station, and be stationed there occasionally, the depot company being stationed there in war time. If eventually battalions are linked, one should be a cadre depot battalion and be permanently at the head-quarter station.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

No.

Yes; Goorkha regiments are localized, and with the constant moves they experience no evil results arise; moreover, it is a boon to their families and children.

If regiments are formed into two battalions, a fixed head-quarter station would be advisable; but if it is a mixed regiment or a class-company regiment, this would not be equally beneficial to all the different classes of which it is composed, and would result in the gradual extinction of the class whose homes are furthest removed from it, as they would naturally be drawn to those battalions stationed in their own district.

I would suggest instead of two battalions of the so-called one regiment changing stations as above, that two regiments constituted alike should change stations in the same way. Officers and men might then be permitted to exchange regiments to a limited extent. If this system was found to act well, further change in the same direction could easily be carried out which might perhaps end in the two regiments being eventually made into two battalions of the same regiment if then considered desirable; but *no violent changes should be carried out at once*. It is more easy to lead up to them by degrees, feeling the way, baling or marking time where difficulties present themselves until they are removed. The dangerous tendency to rush from one extreme to another should be avoided. The system of reserves might be similarly extended hereafter, commencement being made with 200 men per regiment: *vide* answer 16.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Lieutenant-Colonel H. R. Chambers, Commanding 6th Punjab Infantry.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

No, except in the case of Goorkha regiments.

I think regiments recruited in the Lower Provinces should be stationed within them, except for special reasons, such as field service.

No fixed head-quarters for No. 1 battalion, the first, or fighting, line which should be amenable to the usual course of relief; No. 2 should have a fixed station; No. 3 would require none.

Yes, at which depôts of battalions proceeding on service should be located.

Yes, each battalion taking head-quarters station in turn and carrying out recruiting generally for the regiment to the extent asked for by the other battalions.

The advantages of this arrangement would tell favorably in time of war. In the late campaign many regiments were a long way from their recruiting grounds, and had increased difficulties to contend with.

Judging from my own regiment, the Corps of Guides, who have had fixed head-quarters at Murdan since 1851, I do not think that the families of the men of the different battalions would settle at regimental head-quarters. A small proportion of the men might bring their families as long as their particular battalion was there; but directly that battalion was relieved, they would send their families to their own homes.

There ought to be a fixed head-quarters for the regiment, and each battalion should be stationed there in turn.

I do not think that there should be a fixed head-quarter station for a regiment, as detached battalions would in the ordinary course of reliefs be so long from head-quarters, that but little, if any, advantage would be derived by a battalion at such distant periods going to the head-quarter station.

I do not consider this necessary.

Yes, but only for ten years. Wherever possible, I would keep both battalions together. Most probably during the ten years one battalion will be away on service or foreign service, having left their families in their lines with the other battalion; they would return to them when the tour of service was over.

I do not consider it would be an advantage to have a fixed head-quarters.

I can see no use in this. Some head-quarters would be at favorite places, and thus have an advantage over others. In a regiment of four battalions, one of the battalions would get there once in 15 years or so. There would be no use in that; besides it would add to the difficulties of the reliefs of battalions.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

Colonel L. W. Back, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

- Lieutenant-Colonel F. H. Tyrrell,
37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie,
39th Madras Native Infantry.

Major E. France, Commanding
14th Madras Native Infantry.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

Colonel S. Edwardes, 2nd (Prince
of Wales' Own) Grenadier Regi-
ment, Bombay Native Infantry.

Col. W. Bannerman, 4th Bombay
Rifles.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native In-
fantry.

Colonel H. H. James, 10th Bom-
bay Native (Light) Infantry.

Colonel R. Mallaby, Commandant
13th Bombay Native Infantry.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay
Native Infantry.

I think it would be an advantage to have a regiment localized in a particular district, where it might be kept all together at one large station or the different battalions at several smaller stations, one of which might be fixed as the regimental head-quarter station.

Yes; but my idea is that the majority of the men at the head-quarters should be men of 15 years' service and over, capable of performing garrison duties, but not those of a campaign, or hard work. Recruits should be enlisted and drilled there, and then passed on to the service battalion.

No, decidedly not. I see no advantages in it, and it is a serious disadvantage in India to give a regiment what it has not now with us as a body—a permanent connection with the civil population of any one particular place, especially of the place in which it is quartered. Of late years this has been too much lost sight of, and regiments have been kept too long in one garrison—

Three cavalry regiments have been over six years.

The other cavalry regiments ten and a half years.

Two native infantry regiments over eight years each.

I do not think an arrangement of this nature desirable. If it were possible, which I doubt for many reasons, chief among them the initial expense and the difficulty of obtaining satisfactory sites for such head-quarters stations, it would probably be convenient, or even desirable to give each regiment a permanent local head-quarters, to which it would return from time to time, and where the women and children should always remain. The difficulties in connection with such a scheme are, however, so numerous as to make it almost impracticable, as was, I believe, proved when an attempt was made some time ago to localize the head-quarters of the 23rd and 32nd Bengal Native Infantry (Pioneers) in the Punjab. The peculiar features of the recruiting of the Bombay army, which are more fully referred to in the replies to queries 9 and 10, enhance the difficulties in the way of applying such a system of localization to this part of India.

No, I do not consider that there should be a fixed head-quarters for any regiment or battalion; it would not be fair on some, for one regiment might, under such circumstances, always serve at a good station, while others might always have to serve at a more unpleasant or unhealthy one.

No, I do not, because it would debar some battalions from obtaining the benefit of a good climate, and restrict others to periodical visits to an unhealthy locality.

I consider there should be no fixed head-quarters.

This, I think, is not advisable, as it would have a tendency to localize a regiment.

The reserve or 2nd battalion would be better at a fixed head-quarters.

No, if this were so, regular regiments would soon fall to the footing of the old local regiments, and it would inevitably produce in the minds of the men an impression of localization, or being tied to a certain spot which in time would be swarming with the relatives of men, feeding upon them and creating interests injurious to a healthy frame of mind, and drawing off their attention to matters, which at least for the present are foreign to their duty.

No, such a system could not be carried out with any fairness to the army at large in the Bombay presidency, where the men's homes are confined almost entirely to three neighbouring districts—the Deccan, Southern Mahratta Country, and the Concan. In these only six or seven regiments are quartered, so those selected for these districts would be highly favored in comparison to the remaining 20 regiments, or, if two battalions constitute one regiment, of seven regiments, who would be permanently located in, to them, a strange part of the country, such as Guzerat, Aden, Central India, and Rajputana.

No; this would almost be tantamount to forming them into local corps, to which in my opinion there are objections. I would, however, advocate such arrangements being made in the usual reliefs of corps, that the two battalions should always be stationed as near each other as possible, in order that no delay might arise in carrying out the suggestions contained in my reply, No. 5, in the event of any sudden emergency arising.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner, Commanding 29th Bombay Native Infantry.

No; I am decidedly against this plan. The greater the mixture of castes in a regiment, and the more it moves about through the country, the better.

Yes, I do.

8. Would the families of the men be likely to settle at the head-quarters station?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Many I think would, were better quarters in the regimental lines provided for them, and if facilities for travelling were granted.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I do not think the families of the men would settle at head-quarter stations, and I do not think it advisable they should. Families are better in their own villages, as a rule. There should, however, be proper accommodation for the families, who would come now and again, as at present. I have rarely known a man worth his salt who was born and brought up with a regiment.

Colonel T. Boisragon, Commanding 80th Punjab Native Infantry.

I think it very undesirable to have the men's families (which means every relation, including grandfather down to his sisters and his cousins and his aunts) at a regimental head-quarters. At most 10 per cent. *bond fide* married wives and their children should be allowed; and for these married quarters should be provided.

Colonel E. Dandridge, Commanding 40th Native Infantry.

I think they generally would if it were certain that a regiment would return to the station every third or fourth year.

Colonel G. W. Fraser, Commanding 39th Native Infantry.

No; I do not think this probable. Unless the men could have their families with them, they would prefer to leave them at their own homes.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

To a certain degree only. As sepoys are mostly agriculturists, and possess land, the families would usually prefer to remain at their homes.

Lieutenant-Colonel P. Harris, Commandant 11th Native Infantry.

Being in the vicinity of their homes, there would be a strong inducement for men to settle at regimental head-quarters. The men of the 11th Regiment Bengal Infantry are all agriculturists strongly attached to their home plots, but the younger and less interested members of a family would doubtless in time come to regard their head-quarters, to which their battalion periodically reverted, as their home, and would settle there. This would probably take some time to accomplish.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Yes, if the regiment was localized.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

I do not think many of the families of the men in this regiment would settle at the head-quarter station.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

As a rule, in Punjab regiments they would certainly not.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

I do not consider it advisable to encourage the families of men of Punjab regiments to settle at any station. When not with their husbands, it is better that the women should be at their own villages, where they would be looked after by their relations.

Lieutenant-Colonel J. Hudson, Commandant 28th Punjab Native Infantry.

It is possible that some might do so, if permitted; but I am not so sure that there would be any advantage to the regiment in their doing so. I think the less a regiment is hampered with women and children and the relatives of the sepoys, the better for the regiment. They are veritable impedimenta, and a constant source of trouble and annoyance in the lines of a regiment. I would discourage anything of the kind, and would on no account permit any but non-commissioned officers, families to reside in the lines of a regiment.

Lieutenant-Colonel G. C. Bowcroft, 35th Native Infantry.

Only in very few cases; as all but the lowest castes, and of whom none in my opinion should be taken into military employ, have some land or holding which they would be indisposed to give up, save under very exceptional circumstances. The men's families would readily come for a sojourn of some months, if accommodation were available; but I am not in favor of their doing so in large numbers. It leads to men under-feeding themselves; to their sleeping out of their lines; and to quarrels and ill-feeling. I do not at the same time deny that in some respects it is advantageous to the individual soldier to have his wife present, relieving him of much of the delay and labor of preparing his own meals, and cleaning up the cooking-place and utensils.

Lieutenant-Colonel F. M. Armstrong, 45th (Rattray's Sikhs) Native Infantry.

Major R. S. Robertson, 4th N. I., Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd N. I.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating Commandant 9th Madras N. I.

Colonel G. Hearn, Commanding 16th Madras Native Infantry.

No, not in any number. The men and their families are much attached to their own villages, where they all have many little interests. Many own and cultivate small plots of land which have perhaps been in their families for ages.

I do not think it likely that they would settle there, even if it was in close proximity to their homes.

Those of the battalion at the head-quarter station would most certainly be glad to do so.

In some cases they would—Muzbis for instance. But I don't advise such local settlements being encouraged; it would be producing family regiments in its worst form. Ordinarily the best place for a Native soldier's family is at his village.

No; certainly not. Most of them have a little land of their own, which they would never leave.

A certain number of the pensioners of the regiment settle in cantonments and in its vicinity. The families of Goorkha regiments are with them.

If there were class regiments (of only one battalion), and quartered *permanently* at stations in the provinces from which they were recruited, I believe that in course of time a large number of the low-caste men would be induced to bring their families into the lines, provided the married men's quarters were apart from the bachelor's lines. The high-caste men would probably not do so, as they are more conservative, and dislike all change of habits and customs. To encourage this settlement of families in the lines, the regiment on leaving the station should leave a *dépôt* equal to a company, with a British officer, to look after the families, and no other regiment should be allowed to occupy the lines.

The greatest inducement would be the establishment of the line-boy system which obtains in Madras, and which I have explained in a separate letter. This system is much wanted in Goorkha regiments, to improve the physical and mental training of the boys.

With two battalions exchanging quarters, families would not settle in them.

Very doubtful, except in the case of Goorkha regiments.

I think not.

Most certainly. The men's families (*i.e.*, only allowing wives and children) would settle at the head-quarters of Nos. 1 and 2 Battalions; those of No. 3 would of course be with their husbands at their own homes. The settlement of the men's families with their corps I have always encouraged, as it is beneficial both in a military and political point of view.

No; almost all the men serving have more or less land at their homes, which no persuasion would induce them to relinquish, and which their families look after during their absence.

Very few of the men have their families with the regiment, and those women present are in many cases only a substitute for the lawful wife.

Probably Goorkhas. I do not think it would prove the ease with other classes, on this side of India at all events.

Vide answer 7.

Only those who had land at the head-quarter station and also the landless city ones, whose men it would not be desirable to have. Other families would not settle at the station, because they could not have their land.

They would not be likely to settle at the head-quarter station; for if they did not return to their native villages, they would settle down in quiet, cheap places, where there are no troops and few young men to seduce the women.

The families would not be likely to settle down any where than where their own relatives in the battalion are stationed.

Yes; but the head-quarters should be changed every ten years, or the regiment would become semi-local.

If the head-quarters were fixed, it would not be necessary to move the families when a regiment went on service or foreign service. The families would remain in the lines, and the men would return when their tour of duty was over.

At present when a regiment goes on service or foreign service, the transport of their families to and from their villages is paid by Government. This expense would be avoided by having fixed head-quarters. Again, when a regiment moves from one station to another, Government pays the train, or if by road a certain proportion of the cart hire. If there were fixed head-quarters, the transport charges would be only once in ten years.

Colonel L. W. Buck, Commandant 29th Madras Native Infantry.

The families would not be likely to settle at the head-quarter station. The sepoys would always take their wives with them to cook their food, and the children must accompany the mothers.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

Probably some might, but not many. They would generally be with their battalion: and if that went on foreign service, they would either stay where the majority of the families elected to stay, or they would go to their own villages.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

In the Madras army the families now accompany the men. I think in the event of there being a head-quarter station for the regiment, that many families would settle at it; and pensioned men of the regiment with their families would also settle there.

Lieutenant-Colonel P. A. Carnegie, 39th Madras N. I.

Not unless they had relations there. Most of them would prefer going to their own villages.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Not in the Madras presidency. They would always be either in the lines of the battalion their husbands belonged to, or with their relatives in their native villages scattered throughout the presidency.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

The wives and families of the sepoys of this army remain to a much greater extent with their husbands, and look on the regiment much more as their home, than is the case in the Bengal army. This arrangement has been fostered and encouraged, and is looked on by many experienced officers as a good one, tending to render the soldiers more contented and more loyal, inasmuch as they thus give hostages for their wives and children. In my judgment this system can be carried for the following reasons is liable to act prejudicially on the general

their loyalty in the persons of their wives and children. In my judgment this system can be carried to too great an extent, and the physique of the sepoys:—

1st, the probability that friends and relatives of men living in the lines may not infrequently be enlisted though not up to the standard; and

2nd, the fact that the sepoys themselves must suffer in health and strength from the want of a sufficiency of food, if the greater portion of their pay is required to feed their families, and the relatives who quarter themselves on them. The extension of the regimental lines and bazzars which has been necessary in order to provide accommodation for these large families is another disadvantage of the arrangement. As long, therefore, as the present system in this respect is continued,—and it is one which could only be changed by a very slow and gradual process, as such a change would no doubt be looked on with much disfavor by many experienced officers,—I do not think the families of the men would be likely to settle at a permanent head-quarter station, to which their husbands would only return after considerable intervals.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Light Infantry.

No; I do not think families, as a rule, would be likely to settle at a head-quarter station; and I do not think it would be at all desirable that they should be encouraged to do so.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

Not in the Bombay army. Men will enlist and go anywhere; but they always look forward to the time when they may get their pensions and return to their homes. Those men who have married and formed ties out of their caste, and are thus unable to return to their villages, settle down in large towns, where they are lost in the crowd, and have a better chance of obtaining employment.

Colonel W. Bannerman, 4th Bombay Rifles.

To a very inconsiderable extent. Only a few of the families of the Mussulman sepoys, who as a rule in this presidency have no landed interest, and also the families of low-caste men (Parwaris), might probably settle at the head-quarter station; but none of the families of Mahratta and other Hindu castes, who have more or less hereditary landed interests, would do so.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

I think that not only the men's wives and children, but their more distant relations also, would collect at a head-quarter station, and that this would be found a further objection to the plan. There is already considerable difficulty in keeping down the number of those who gather round a regiment with a view to being supported by their sepoy relatives, the latter thereby suffering from not having sufficient means left to feed themselves properly.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

The families would generally be where the men are, but in case of service, or one battalion having to go any great distance off, the probabilities are that their families would locate themselves at head-quarters of a second battalion.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

In many cases I think they would. A large number would, however, still cling to their own birth-places, as they may be interested in patrimony. But I believe that such establishment of the families at headquarters would be injurious to the men themselves, as I consider the habit of cutting themselves adrift from the monotony of their work during a period of furlough has the best possible effect on the men.

A few might as at present, who attach themselves to the regiment and move with it wherever it goes; but the most part would prefer returning to their own country where their relatives reside, and where very many possess lands and houses.

Undoubtedly. The families of the Bombay sepoys, as a rule, are with the head-quarters of their regiments, which, in my opinion, is a very desirable arrangement.

The families of Mahrattas, Purwaris, Beders, and Moohicks would, and most probably in large numbers; but the families of Punjabis, Hindustani men, and Muhomedans of good families would not.

Some would, but not as a rule.

9. State the district (mentioning the civil districts or collectorates in which the villages of the men are situated) from which you chiefly obtain your recruits.

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Sikhs and Punjabi Mahomedans from Rawal Pindi, Jhelum, Goojranwalla, Lahore, Umritsar.

Dograhs from Kangra and Sialkot.

Pathans from Buzfai, Khuttuk district, and beyond the frontier.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Gwalior State—2 companies Thakurs.

Rohtuk, Hansi, Hissar, and Jhind—2 companies Jats.

Gwalior and Goorgaon—1 company Goojurs.

Kangra and Mundi—1 company Dogras.

Sirmoor and Gurhwal—1 company hillmen.

Oudh and Rohtuk—1 company Mahomedans.

Colonel T. Botsragon, Commanding 80th Punjab Native Infantry.

Amritsar, Goordaspore, Goojerat Hoshiarpore, Jhelum, Jullundur, Kohat, Lahore, Peshawar, Rawal Pindi, Sialkot, trans-border.

Colonel E. Dandridge, Commanding 40th Native Infantry.

In the Punjab, from districts Jullundur, Goordaspore, and Hoshiarpore; in Oudh, from districts Fyzabad and Hurdoi; in Rohilkhand, from districts Shahjehanpore and adjoining, Fateghur, Arrah.

Colonel G. W. Fraser, Commanding 39th Native Infantry.

Cis-Sutlej Sikhs chiefly from Loodiana and Pattiala States; hillmen from Kumaon; Hindustanis (comprising Brahmans, Rajpoots, Jâts, Aheers, inferior caste Hindus), Khuteeks, Chumars, Mehters (the latter three called low-caste), from Lucknow, Sultanpore, Peralghur, Moradabad, Allyghur, Rohtuk, Hissar, and Punjabi Mahomedans (very few) from Jhelum and Pindi.

Lieutenant-Colonel H. Worsley, 7th Bengal Native Infantry.

The bulk of the regiment (369 men) come from the civil divisions of Rai Bareli, Benares, and Allahabad, 63 men from Lucknow, 81 Arrah, and 63 Ferozepore. A detailed statement is annexed.

7th NATIVE INFANTRY.

Detailed statement of districts from which the corps is recruited.

Province.	Number of men.		Civil division.			Remarks.
Oudh 	242	140	Rai Bareli	A very large proportion of the Oudh men are young soldiers. (Hurdoi district only.)
		62	Lucknow	...	...
		36	Fyzabad	...	...
		6	Sitapur	...	...
North-Western Provinces	293	108	Allahabad	Districts contiguous to Oudh.
		121	Benares	...	...
		41	Agm	...	...
		22	Meerut	...	...
		5	Rohilkhand	...	...
		1	Jhansi	...	...

Detailed statement of districts from which the corps is recruited—concluded.

Province.	Number of men.		Civil division.		Remarks.
Punjab ...	3	3	Delhi and Rohtak ...		Not Sikhs.
Punjab Proper ...	131	7	Trans-Sutlej ...	}	Sikhs.
		63	Ferozepore District ...		
		19	Ludhiana ...		
		6	Other Cis-Sutlej Districts ...		
		22	Puttiala State ...		
		11	Other Sikh States ...		
Lower Bengal ...	86	81	Arrah District ...	}	Chiefly old soldiers of 15 years' service.
		5	Other Districts ...		
Central Provinces ...	2	2	Saugor.		
Regimental ...	20	20	Regimental ...		Band-boys, &c.
Total ...	779	779	.....		Present strength of regiment.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infantry.

The 11th Regiment may be described generally as being recruited from the Province of Oudh. The districts from which the men are chiefly obtained are Lucknow, Muzoi, Shahjehanpur, Bareilly, Fyzabad, Gouda, Sultanpur, Bahraich, Rai Bareilly, Nawabganj, Unao, Cawnpore, Azimganj, Allahabad, Mirzapur, Arrah, and some other neighbouring districts.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Puttiala, Ferozepore, Loodiana; a few from Furruckkote, Jullundur, Nabha, Jhind and Umballa.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

This regiment is recruited from the whole of the Oudh districts, more especially perhaps Fyzabad and Sultanpur; a few men also come from Arrah and Bareilly.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Kangra, Jammu, Hoshiarpur, Gurdaspur, Sialkot, Goojerat, Jullundur, Lahore, Umritsur, Pindigheb, Kohat, Peshawar, Murdan, the Khyber, and Terah (Afridi).

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

(1) Jullundur, (2) Hoshiarpur, (3) Kangra, (4) Umritsur, (5) Lahore, (6) Gurdaspur, (7) Gujranwala, (8) Sialkot, (9) Jhelum, (10) Rawal Pindi, (11) Hazara, (12) Peshawar; also from beyond the trans-Indus frontier.

Lieutenant-Colonel J. Hudson, 28th Punjab Native Infantry.

The villages from which recruits for the 28th and most other Punjab Native Infantry regiments are chiefly obtained are situated in the following districts:—

Peshawar Valley.	Lahore district.
Kohat district.	Ferozepore "
Jhelum "	Shahpore "
Rawal Pindi "	Umritsur "
Sialkot "	Goordaspore "
Gujrat "	Puttiala "
Gujranwala "	Kangra "
Poonch "	Hoshiarpur "
	Jullundur and Loodiana districts.

Lieutenant-Colonel G. C. Rowcroft, 33th Native Infantry.

Mainpuri,	N. W. Provinces.
Furruckabad	Do.
Etah	Do.
Sooltanpur,	Oudh.
Rai Bareilly	Do.
Barabanki	Do.
Fyzabad	Do.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Battery's Sikhs) Native Infantry.

Chiefly Sikhs from Lahore, Ferozepore, Gujranwala, Jullundur, and Umritsur; Dogras (1 company) from Kangra and Hoshiarpur; Punjabi Mahomedans (1 company) from Rawal Pindi and Jhelum districts.

Major R. S. Robertson, 14th N.I.,
Off. Assistant Adjutant-General,
Amritsar Division.

The recruits of the 4th Native Infantry are obtained principally from Oudh; a certain number from Arrah and elsewhere.

Major R. A. Wauchops, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieut.-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Lieut.-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

Major A. G. Ross, Commanding 1st Sikh Infantry.

Ferozepore, Ludhiana, and Pattiala, but chiefly the latter.

Generally the districts round Lahore, *viz.*, Umritsar, Pathankote, Gurdaspur, Loodiana, Jullundur, Ferozepore, &c. The regiment being a class regiment composed of Muzbis, they are accepted wherever found.

About two-eighths come from Loodiana, Jullundur, Ferozepore, Gurdaspur, and Umritsar; and about six-eighths from Shahjehanpore, Furruckabad, Etawah, Hurdoi, Bareilly, Sultanpore, Ghazipur, and Arrah.

All recruits for Goorkha regiment are obtained from Nepal. For districts, area of recruiting, and modes suggested, *vide* letter* No. 8A. (Confidential), dated 20th May, to the Adjutant-General in India; subject Recruiting Native Army.

The recruits of my regiment (the 4th Goorkhas) are obtained almost entirely from the independent State of Nepal, *not* from the valley of *Khabaundoo*, but from the *remote* outlying mountain provinces that border on the independent States of Sikkim and Bhootan.

Lucknow, Nawabgunge, Sultanpore, Fyzabad, Gonda, Pertabghur, Unao, Sitapore; North-West Provinces, Cawnpore, Ghazipore, Sarun, Shahabad, Patna, and Gya. About 550 recruits from Oudh, and about 150 from other places.

As mine is a mixed regiment, I recruit from Cabul, Peshawar, Yuzafzai, Kohat, this frontier generally, Dogra, Manja and Malwa Sikhs, Punjabi Mahomedans, Purbyas (Hindus and Musalmans).

Dogras from Kangra, Hoshiarpore, and Gurdaspur.

Sikhs from Amritsar, Gurdaspur, Lahore, and Sialkot.

Punjabi Mahomedans from Rawal Pindi, Jhelum, and Sialkot.

Pathans from Teerah, Eusafzai, and Kohat.

In my regiment the three companies of Pathans are enlisted from amongst Khattaks and Bangashes in the Kobat District, Eusafzais in the Peshawar District, a few from the Pathan tribes *cis-Indus* in the Hazara District, and also from independent tribes beyond the border.

Two companies of Sikhs are obtained from the Lahore, Amritsar, and Jullunder districts, and a portion also from the *cis-Sutlej* States.

One company of Punjabi Mahomedans from the Rawal Pindi and Jhelum districts.

One company of Dogras from the Kangra district, and one company of Hindustanis from the Fyzabad, Gonda, and Rai Bareli districts in Oudh.

For Dogras, the districts of Kangra and Jammu (Kashmir).

For Pathans, Peshawar, Eusafzai, and Kohat.

For Punjabi Muhammadans, Rawal Pindi, Jhelum, Guzerat, Makhud, Cutch, and Hazara.

For Afridis, Teerah, Khyber and Kohat Passes.

For Goorkhas, Nepal.

For Sikhs, Amritsar, Lahore, Ludhiana, Ferozepore, and Jhelum.

Sikhs.

Malwa Sikhs, $\frac{1}{4}$ of Sikh company.	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;"> Umballa Patiala territory Ludhiana Ferozepore Nabha territory </div> <div style="display: inline-block; vertical-align: middle; font-size: 3em;">}</div> </div>	Proportion of $\frac{1}{4}$ of Sikh companies, 4 in number.
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Manjha, Doaba, and other up-country Sikhs, $\frac{3}{4}$ of Sikh companies.	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;"> Jullunder Amritsar Hoshiarpur Gurdaspur Lahore, and a few from Sialkot and Gujrat and Gujran-wala. </div> <div style="display: inline-block; vertical-align: middle; font-size: 3em;">}</div> </div>	Proportion of $\frac{3}{4}$ of Sikh companies, 4 in number.
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Punjabi Musalmen.

Punjabi Musalman	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;"> Jullundur. Amritsar. Lahore. Jhelum. Rawal Pindi. Jammu (and a few from Hazara). Shahpur. </div> <div style="display: inline-block; vertical-align: middle; font-size: 3em;">}</div> </div>
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Dogras.

Dogras	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;"> Kangra Hoshiarpur </div> <div style="display: inline-block; vertical-align: middle; font-size: 3em;">{</div> </div>	<i>Hindustanis.</i>
Hindustanis	...	Oudh.

* *Vide* appendix XXXVIII.

Pathans

Corps.	Within presidency limits.	FOREIGNERS.				Total.	Total strength.	Number wanting to complete.
		Hindustan.	Punjab.	Other districts.				
1st Regiment, Native Infantry ...	621	153	79	8	240	861	...	
2nd " " " ...	546	52	52	15	119	665	47	
3rd " " " ...	536	123	15	14	152	688	24	
4th " " " ...	590	95	4	1	100	690	22	
5th " " " ...	572	70	48	3	121	693	19	
6th " " " ...	599	83	6	12	101	700	12	
7th " " " ...	593	69	36	2	107	705	7	
8th " " " ...	567	28	91	5	124	691	21	
9th " " " ...	588	90	15	13	118	706	6	
10th " " " ...	619	38	23	24	85	704	8	
11th " " " ...	567	65	44	7	116	683	20	
12th " " " ...	533	70	47	21	138	671	41	
13th " " " ...	533	95	56	5	156	689	23	
14th " " " ...	545	57	55	55	157	712	...	
15th " " " ...	550	83	6	40	134	684	28	
16th " " " ...	575	48	34	5	87	662	50	
17th " " " ...	548	69	39	30	144	692	20	
18th " " " ...	515	65	34	10	109	624	88	
19th " " " ...	724	69	57	1	127	851	...	
20th " " " ...	546	137	20	3	160	700	6	
21st " " " ...	593	107	3	6	115	708	4	
22nd " " " ...	558	78	41	5	124	682	30	
23rd " " " ...	463	171	49	26	246	709	3	
24th " " " ...	601	60	29	14	103	707	5	
25th " " " ...	568	65	39	4	108	676	36	
26th " " " ...	573	63	22	6	96	667	43	
27th " " " ...	170	43	328	152	528	698	14	
28th " " " ...	579	88	21	3	112	691	21	
29th " " " ...	277	62	483	91	530	816	...	
30th " " " ...	177	267	131	78	476	653	59	
Total ...	16,034	2,578	1,807	667	5,052	21,086	660	

From this return it appears that three-fourths of the infantry soldiers of the army have been enlisted within the presidency limits, the greater proportion of this number being obtained either from the Concan* or the Deccan, of which the following are the civil districts from which most of the recruits come :—

Sawant Wari	...	Sattara	...
Malwan	...	Kolapoor	...
Ratnagiri	...	Meeruj	...
Chiploon	...	Sholapoor	...
Dapooli	...		
Alibagh	...		

From Khandeish, which formerly supplied a fair proportion of recruits; but a very limited number

Khandeish	...	Nassick.
	...	Malegaum.
	...	Doolia.
	...	Dharungum.
Guzerat	...	Surat.
	...	Broach.

are now obtainable. Very few men join the army from Guzerat; and from Cutch and Kattywar none at all. Sind does not supply many good recruits, the people of that district being dirty and slovenly, and the local regiments naturally pick up the few good men who offer themselves for military service. Most of the recruits belong to the agricultural classes, and commanding officers appear to prefer those

from the Deccan to men from any other part of the presidency, but they do not enlist so freely as the inhabitants of the Concan.

Brigadier-General A. B. Little,
Commandant 25th Bombay Na-
tive (Light) Infantry.

Of late years recruits for my regiment have been drawn from the Concan, Deccan, and Southern Mahratta Country principally, and a few from Khandeish and Guzerat.

Not being with my regiment, I am unable to give the names of the collectorates.

Colonel S. Edwards, Com-
manding 2nd (Prince of Wales'
Own) Grenadier Regiment Bom-
bay Native Infantry.

District	Collectorate.
Southern Concan	... { Ratnagiri.
	{ Sawant Wari.
Deccan	... { Poona.
	{ Satara.

Colonel W. Bannerman, 4th
Bombay Rifles.

Two-thirds of the recruits are obtained from the districts of the North and South Concan and the Southern Mahratta districts of Malwan, Ratnagiri, and Sawant Wari. The collectorates of Poona, Satara, Sholapoor, and Ahmednuggur afford a good many of the recruits; but the supply of the country classes in these districts is very limited and uncertain, and most of the recruits obtained come from the large towns and the districts immediately around them. A few recruits are drawn from the districts of Khandeish. None, however, of the class of cultivators in these districts appear to find sufficient inducement to take service in the army. The districts of Guzerat, including the collectorates of Surat, Broach, and Ahmedabad, hardly afford a single recruit.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native
Infantry.

Of the men now with the 9th Regiment, about 300 are from the Concan, chiefly from the collectorate of Ratnagiri and the neighbouring State of Sawant Wari; rather more than 100 from the Deccan, i.e., the collectorates of Ahmednagar, Poona, and Satara; about 100 from Hindustan and the Punjab (16 men only from the latter province); about 50 men from Guzerat, chiefly from the Baroda State; 24 men from Malwa, i.e., the neighbourhood of Mhow and Indore; 180 men were born with the regiment.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

Chiefly the Deccan, including collectorates of Ahmednuggur, Poona, Sholapoor and Sattara; also the Concan, including Ratnagiri, Malwan, and Alibag collectorates. A certain number of recruits are obtained from the Punjab, Hindustan, and Madras. These are limited to 100.

Colonel R. Mallaby, Command-
ant 13th Bombay Native
Infantry.

The main body of my recruits have been drawn from the Concan (Ratnagiri and Sawant Wari districts), but for the last three years, I have obtained all I could from the Deccan (Ahmednuggur, Poona, and Sholapoor districts). For some years I have not recruited from the Punjab or North-Western Provinces or Bengal, as I am beyond the strength of 100 foreigners allowed.

The recruiting districts for the Bombay army are virtually confined to Deccan and Concan. Khandeish and Guzerat produce very few recruits, and those of very inferior physique.

In my opinion the Deccan and Concan are being rapidly worked out, and do not supply the stamp of recruit now required for so many regiments.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

The Concan (Ratnagiri), Southern Mahratta Country (Sawant Wari), and Deccan (Poona and Nuggur).

Colonel A. Carnegie, 21st Bom-
bay Native Infantry.

The duties of the battalion under my command being chiefly about, and distinct from those of other Native regiments, its ranks are chiefly filled with low-caste men from the Concan districts, comprising the collectorates of Colaba and Ratnagiri and the Native State of Sawant Wari; the 100 foreigners allowed being Musalmans from the province of Oudh.

* 9,302 from the Concan, 3,371 from the Deccan.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner, Commanding 29th Bombay Native Infantry.

Guzerat, Khandeish, Deccan, Concan, Malwan, and the Southern Mahratta Country.

Beluchistan, Sind, and the Punjab; a few from Southern Afghanistan.

10. Would it be desirable to recruit your battalion from one particular area of country?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

In the case of my own regiment, I consider recruiting should be confined to the Punjab proper, and in the case of class regiments, as far as possible to one particular area of country.

I think it would be a great advantage to recruit from a given area, and especially from a given clan within that area.

Yes; it would be so much easier to carry out the reserve scheme if regiments were recruited within certain areas.

Yes; if regiments are class; no, if they are mixed.

If it is to remain as at present a class company battalion, it will be seen from answer 9 that the area of recruiting ground of the battalion is pretty extensive, comprising a fair proportion of the Doab lying between Ganges and Jumna, Rohituk and Illissar, Oudh, Rohilkund, Kumaon, the cis-Sutlej territories and Punjab. If the battalion were a class battalion, and the area sufficiently large to admit of the best districts being selected as recruiting grounds for the class required, it might be advisable; otherwise, as shown above, it would be impracticable.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Most decidedly. By localizing recruiting depôts, and by recruiting our regiments entirely from their own districts, we know to a nicety what regiments we *cannot* expect to be loyal under certain contingencies. The great principle to be observed is, that the loyalty of a mercenary soldier must never be tested by placing him in a position where he may have to act against his own people. The conduct of the Pathans in the last campaign aptly illustrates this point. It was unreasonable to expect loyalty from Pathans in the Afridi country; but composed as our army now is of mixed regiments, we had no alternative but to employ regiments indiscriminately, and trust to luck. Locally-raised regiments will eliminate this dangerous element of chance, and we shall in every case know whom *not* to employ.

As I am in favor of class regiments, I consider it very desirable that regiments should be recruited from certain particular areas of country.

Certainly; men prefer serving in regiments in which their companions are fellow countrymen.

This battalion is already almost entirely recruited from one area of country.

Yes; each regiment should have its allotted area. Hindustani regiments now help to drain the Punjab, as also do corps in Bombay, thus adding greatly to the great difficulty experienced by Punjab regiments in obtaining good recruits of authorized classes.

I do not think that any other system than that in force is desirable. The battalion is composed of four companies of Sikhs, two of Punjabi Muhammadans, one of Dogras; and one of Pathans.

The Sikhs, who are mostly from the Manjha, with a few from the Jullundur Doab, are enlisted in the Jullundur, Hoshiarpur, Umritsar, Lahore, Gurdaspur, Sialkot, and Gujranwala districts. The Punjabi Muhammadans from Sialkot, Jhelum, Rawal Pindi, and Ilazara. The Dogras from the Kangra district. The Pathans from the Peshawar district and from beyond the frontier.

No; I think not. Now that we have a line of railway running through the Punjab, I can see no object in restricting recruiting to a certain tract of country.

As I am in favor of class companies in Punjab regiments, so I think the whole Punjab should be open as a recruiting ground.

As a matter of fact, few good Sikhs are obtained north of the Jhelum; few good Punjabi Muhammadans south of the Ravee; and no good Pathans, except Sagris, south or east of the Indus.

Lieutenant-Colonel J. Hudson, Commanding 29th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

I do not think it would be possible, judging from such experience as I have had in endeavouring to recruit from the original home of the 35th or Mainpuri regiment. The supply has always been far short of the demand. The facilities, however, for doing so would no doubt be much increased by alterations in the present organization, such as reserves and dépôt battalions being established. I am of opinion that it would be desirable to recruit from one particular area of country.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Yes; certainly from those already mentioned for the different classes, and from which this regiment has always drawn its recruits.

Major R. S. Robertson, 4th N. I., Officiating Assistant Adjutant-General, Allahabad Division.

It would, for the reasons given in answer No. 7; but the battalion should be stationed in that area.

Major R. A. Wanchope, 14th Sikhs.

I think so; it has always been the custom in this regiment.

Major A. C. W. Crookshank, 32nd Pioneers.

This is already done: *vide* answer to question 9.

Captain H. D. Hutchinson, 40th Native Infantry.

No.—No restriction is desirable.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Vide answer 9.

Major F. F. Rowcroft, 4th Goorkhas.

Most certainly, and only from the remote outlying mountain districts of Nepal, whence alone the very best and purest Goorkhas of the fighting class are procurable.

Colonel R. Blair, 3rd Native Infantry.

Yes, as practically done at present; but do not think the area should be confined to narrow limits.

Colonel H. Boisragon, Commandant 4th Sikhs.

If the reserve system is to be carried out, it must be a *sine quâ non* that battalions should be recruited from one particular area of country. But I would exclude none of the races of India, having regiments of all its various tribes (this I consider a political necessity, and to obviate any feeling of martyrdom). The first battalion always to be stationed as far as possible from its recruiting district. Hitherto I have considered the mixed regiment the most advisable and safest, as unlikely to have so much combination for mischief; but I am now doubtful whether time and constant attrition does not introduce a new element of danger, in causing all races and religions to have a more common feeling and interest with each other, and, therefore, always to be carefully avoided by us, the very contrary being our safeguard; and consequently I would now advocate class regiments. Assuredly, as a rule, they have more *esprit de corps* and *elan*.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Yes; restrict recruiting of all battalions to certain areas—Punjab battalions to Punjab and adjacent border; Hindustanis to Hindustan (including North-West and Oudh); Bombay regiments to certain defined areas in *their own presidency*; Madras to theirs. Do not endeavour to fuse the whole Native military element into one general amalgam.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

This could not be done without changing the constitution of the regiment. Mixed regiments would frequently have to extend over a much larger field for recruiting than class ones.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

As I am in favor of class-company regiments, I think not.

Major A. G. Ross, Commanding 1st Sikhs.

This depends on its being a class battalion or a class-company battalion.

If a class battalion, I would have a central head-quarters, and recruits from a wide area round it, as long as the area was continuous with the race composing the battalion.

If a class-company battalion, as many areas would be necessary as there were companies of *varying classes*.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

It would not be desirable to restrict the area from which the battalion is recruited.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

Recruiting should be general in all the districts in the presidency to which the battalion belongs.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

No; I think not. Recruiting in every district is the best. To allow that any man belonged to any particular place, or that the men from any particular place were better or worse than others, would be a bad principle. Take men where you can get them; and then let their regiment be their own particular country till they die.

Colonel L. W. Back, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras N. I.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Light Infantry.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

Colonel W. Bannerman, 4th Bombay Rifles.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

I do not think it would be advisable. When a regiment is stationed in the south of India, it is convenient to recruit men from Tanjore and Trichinopoly. Regiments at Secunderabad and to the north find it more convenient to recruit from the Ganjam, Vizagapatam, Gollavery, Kistna, and Nellore districts.

Certainly not; the more they are mixed up the better.

I think it would be desirable to recruit from one particular area of country. Practically it is now done to a great extent in the Madras army. The Tamil or southern men will seldom enlist in this battalion, because they would have few comrades of their own race. This battalion was first raised in 1800 in the Telinga country, and has, I suppose, always been a Telinga regiment, composed partly of Telingas, partly of Musalmans of the Telinga country.

I think not. There is considerable difficulty in obtaining recruits now-a-days; so the larger the area the better.

Decidedly not. Regiments should continue, as heretofore, to be as much mixed as possible, no one class being allowed a preponderance. To recruit from one particular area means to assist combination. Were not all the old regular regiments of Bengal Native infantry that mutinied in 1857 recruited from one particular area?

The reply to query 9 shows that recruiting for the whole of the Bombay army is particularly confined to two districts of the presidency—the Concan and the Deccan. Bombay is the only military station in the former district; while Poona, Sattara, Sholapore, Kolhapore, Ahmednagar, Sirur, and Kirkee are the military stations in the Deccan proper. Belgaum for military purposes might be considered to be in the Deccan, though it belongs correctly to the Southern Mahratta Country. The above peculiarity renders the localizing of the regiments of the Bombay army in the districts in which they are recruited almost, if not entirely, impracticable, and also prevents a special district being assigned to each regiment for recruiting purposes.

No; I do not think it would be desirable to recruit from any one particular district or area of country; for this reason, that the greater the mixture of castes and races we have in regiments the better.

No; I am in favor of mixed battalions. A judicious mixture of nationalities and creeds would reduce to a minimum, if not prevent altogether, any combination in corps for a nefarious purpose.

For the Bombay army, I advocate recruiting two-thirds of its strength within presidency limits and one-third foreigners. The Southern Mahratta Country, from which recruits for the Bombay army are chiefly obtained, having been subjugated a long time, the inhabitants are less martial and warlike, although more amenable to discipline, than the tribes farther north, and who have not been so long under British rule. A combination in the individual of the good qualities of each would make a perfect soldier. The contact of one with the other in a regiment improves both, and conduces to a good result.

No; and from the limited area from which recruits are to be had in this presidency it could not be done.

In my opinion most certainly not. The present system of enlisting men of various castes, creeds, and countries works admirably. It was probably owing to this system that the Bombay army remained loyal and staunch in the mutiny, a general combination amongst the men being almost an impossibility.

I think not. A mixed regiment has fewer prejudices. I would rather extend the recruiting ground, there being already difficulty in getting really good recruits. The Bombay army might be allowed to recruit in Rajputana and Malwa, as they garrison those districts.

Most assuredly not; the wider expanse you obtain your men from, and the more mixed their classes and nationality, the better. I would not allow the broad distinction of home and foreign, but would restrict any one nationality to one-third the strength of the regiment.

No; regiments should be composed of different classes, when, in the event of disaffection, unanimity or combination among them would be difficult.

In this respect I consider no improvement could be made on the present system of recruiting.

Colonel J. Fairbrother, Commanding 22nd Bombay N. I.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

No, certainly not; with the exception of Beluchis and perhaps Afri-
cans (Seedees), and Eurasians.

Yes, north of the Indus, including Sind, Beluchistan, and the Punjab.

11. Do you consider the present system of increasing the army on the outbreak of a war sound and satisfactory as regards its results?

Colonel J. Dorn, Commanding 27th Punjab Native Infantry.

Decidedly not. In the hurry to augment and complete regiments to a war strength, many men of inferior class and physique are taken, their drill and instruction hurried over, and they are passed into the ranks often so imperfectly trained, that they seldom afterwards become smart and efficient soldiers. The battalion itself is crippled by the absence of a number of recruiting parties and the additional hands required at the dépôt for drilling the large bodies of recruits. Then the system of reduction on the termination of the war is a most pernicious one, as it gives rise to much discontent, and renders the service most unpopular.

Above all, our unpreparedness for war cannot fail to leave a bad impression on the Native mind.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I do not consider it sound or satisfactory. In a time of expected war or general trouble, men do not care to enlist, and sometimes the British officers exert themselves but little in the matter, on account of the extra work which, from reduction following so shortly, they look upon as labor in vain. Recruits enlisted for service augmentation are rarely fit to join the ranks before the campaign is concluded.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Nothing could be more *unsound* and *unsatisfactory*; and I think this call for troops for service for this Afghan war, and when required to be sent to Malta, &c., has amply proved. The present system is a fruitless waste of public money.

Colonel E. Daudridge, Commanding 40th Native Infantry.

I do not consider that the present system provides at all either for enabling a corps to take the field in sufficient strength or for feeding it when there.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

No, certainly not. The experience of the recent campaign tends to show that recruits enlisted on the outbreak of a war in order to keep their regiments up to a war footing are not ready to join the ranks sufficiently quickly to prevent many of the regiments dwindling down to mere skeleton battalions.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

No; most unsatisfactory in every way. Augmentation by volunteering is detrimental to those corps which lose the volunteers. Augmentation by recruiting is worse than useless. Even if you thoroughly train the recruits, much time is lost, and in any case they are not *disciplined* soldiers, confident in themselves and their officers. The lesson of the Zulu war should teach us the danger of employing drilled but undisciplined boys.

For feeding the losses in corps on active service we must trust to reserves, not recruits.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

I consider the present system of increasing the army on the outbreak of war most defective. In the first place, men hurriedly enlisted cannot possibly be so good as those deliberately and carefully selected. Then their training hampers a regiment on field service; they take up transport and consume provisions without any adequate return; whilst, if left at the old stations of their regiments, not only must good men be left behind to train them, but they cannot be expected to join their colors as effective soldiers much under 12 months.

Lieutenant-Colonel L. H. Wilkins, 14th Sikhs.

Certainly not, as will be seen by the next answer.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

No; the present system is not at all sound or satisfactory. So many regiments are recruiting on the same ground, that it is almost impossible to obtain the requisite number of recruits of a good stamp in the required time.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Most decidedly not. The rush for recruits, and the anxiety of many officers to fill their ranks, no matter often at what cost to the future efficiency of their regiments, prevent proper selection. Hospitals are filled, the family pension list swelled; and yet commanding officers who adhere to a proper standard, and refuse the weakly or half-grown boy and the weed, are often blamed.

If ——— regiment can fill its ranks, why cannot every other?

And each battalion a depôt from which to draw, none but seasoned good men need ever proceed on service. Its vacancies could at once be filled by trained men, able to undergo any hardship; and the depôts could re-enlist at comparative leisure. The system, moreover, is not attractive, and produces much discontent. All know that war augmentations are but temporary measures; that absorption will certainly follow, and that many recruits are likely on conclusion of peace to be discharged as unlikely to prove good soldiers.

The recruits also find that after having been hurriedly taught to load and fire, to form fours and take part in the few simple evolutions necessary for active service; and after having for months served as, and fancied themselves trained soldiers, they are on return to quarters remanded to recruit drill and musketry training, with all their fatigues and petty annoyances.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

I think that it is the only system we can adopt without putting the country to very heavy expense. I am of opinion that if a battalion is never let to dwindle below 800 sepoy, an extra 200 men can be enlisted, and made serviceable in a short space of time. Owing, however, to the requirements of the musketry regulations, it might be a very long time before the new men became drilled soldiers in a musketry sense. But men are serviceable without being so highly trained.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

I consider the present system of increasing the army on the outbreak of a war eminently unsatisfactory in its results. In fact, there is no system.

During the late campaign in Afghanistan, when the order was received to augment battalions by recruiting 200 more sepoys, it became necessary to detach from regiments actually engaged in active operations in the field a staff of British and Native officers, non-commissioned officers, and sepoys for recruiting purposes; and these parties had to proceed several hundred miles down-country before they reached their recruiting grounds; and when they arrived there, they found themselves confronted by some 20 other parties similarly employed, all working against each other, and each with a single aim to the efficiency of its own particular regiment. In many instances the results were most unsatisfactory.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

No, certainly not. It throws a great and sudden strain upon the regimental machinery, and much labor upon the adjutant and his drill staff. Extra arms, accoutrements, clothing, and regimental necessaries have to be at once procured, while the accommodation in lines and bell-rooms and quartermaster's store-room, calculated for the requirements of 712, is not sufficient for those of 912 men.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Very unsatisfactory indeed in its results. Take the last occasion. Every regiment was suddenly ordered to add 200 men to its strength. Each sent recruiting parties all over the country to enlist a certain number of men in a given time. The country was overrun with these parties (not furnished always by the best men for the purpose, who could not be spared from regiments already proceeding to the front). Result—an inferior class of recruits was obtained, many of whom commanding officers would now gladly get rid of.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Decidedly not. I do not consider it possible to add effective soldiers to the army with any beneficial result by enlisting recruits after the outbreak of war, as it takes a considerable time to turn a recruit into an efficient soldier in the Native army.

Major R. A. Wauchope, 14th Sikhs.

I do not. It is manifestly impossible to suddenly increase nearly every battalion in the service by a large number of men. In the first place there is the difficulty of obtaining so many men at a short notice when our country declares war; secondly, the training of them, as it is a mistake to send recruits to the front until they are trained, on account of their uselessness when there, and the expense incurred in feeding them; thirdly, the length of time—from six to twelve months—required to make them soldiers.

Major A. C. W. Crookshank, 32nd Pioneers.

Certainly not. It is, I think, of all systems the most unwise, expensive, and unsatisfactory.—I mean the general augmentation of an army. To augment certain regiments ordered on service, or likely to be ordered, is rational and intelligible. But I never could understand regiments in remotely distant stations being compelled to take an increase of 200 men where they are not locally needed. Certainly regiments do not want the worry and trouble of arming, clothing, and training these men merely to absorb them in a few months. The loss in partly-worn clothing and partly-used arms and accoutrements is very great.

In the old army the augmentation was not necessary, as regiments had 1,000 sepoys and could afford to lose a large number before reaching the present fighting strength of regiments, and meanwhile recruiting was actively carried on at a time when the army was popular. This is no longer the case. We have now restricted recruiting to a few castes; and recruits being scarce, it takes a long time to beat them up; and what with the distance regiments are quartered from their recruiting areas, and the absence of recruiting staff at head-quarters, it is now impossible to obtain and drill recruits in time to be of any use.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Dattye, 2nd Goorkhas.

Major F. F. Rowercroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

Having been entertained by strange officers at fixed stations, there was no possibility of getting them trained without reducing the fighting strength of regiments, already weak enough, by sending back officers, non-commissioned officers, and sepoys to put them through a rough training, just sufficient to make them understand how to load and fire their rifles, and keep together in some sort of order. Then these men were marched to the front, and posted to their different companies, the officers and men of which they did not know nor had ever seen. Luckily, in the late campaign, there was time given to continue their training on joining their regiments; but it is not in every campaign that such a thing could be done.

Another blot on the system I consider was that, although regiments were ordered to raise 200 men, no increase was made to the non-commissioned ranks.

For cavalry, matters were still worse. No ready-made riders are now-a-days procurable; and men cannot be taught to ride in a day. So the recruits entertained were utterly useless. They could not ride, and there was no possibility of training them. There were no saddles, accoutrements, or horses ready for them; and the ordnance department made difficulties about issuing carbines.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

No, certainly not: see next answer.

No; I consider the present arrangement most imperfect, as far as Goorkha regiments are concerned. Goorkhas take much longer than other classes of Natives in passing into the ranks, and therefore recruits obtained at the outbreak of a campaign would be useless to reinforce the ranks. As arrangements stand at present, if a Goorkha regiment sustained severe loss in the field, there is no means whatever of making good such losses.

As regards Goorkhas an impossible system; and must I think be unsound and unsatisfactory with regard to all other regiments, though I cannot speak of them from experience.

I consider the present system of increasing the army on the outbreak of war *most unsound* and *most unsatisfactory*, if not quite useless.

No, I do not; as recruits are not fit for duty until they have had about a year's training.

I am aware of *no* system on this point. Hitherto we have enlisted recruits on any sudden necessity of augmentation, and disbanded them when the emergency has passed over.

No; there ought to be a reserve of trained soldiers.

Certainly not; it has not one single redeeming point.

I do not. After deducting sick and recruits from a regiment on the peace strength, it is manifestly too weak to be efficient for the commencement of a campaign.

A system of regiments with battalions would rectify this; for then the required number of battalions could at once be put into the field on a war strength, making up their number from their regiments.

Most certainly not. Owing to the immediate necessity of increasing strength of regiments, the demand for men was such, that striplings wanting in physique, and even elderly men, were entertained, neither of whom would have been admitted into the service in ordinary times.

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Most unsound and most unsatisfactory as regards results.

I consider the present system of increasing the army after the outbreak of a war neither sound nor satisfactory as regards its results.

On the outbreak of a war or any sudden emergency, it has been generally found necessary to increase strength of the regiment proceeding on service by calling for volunteers from other regiments. This, though it has answered well enough, cannot be considered a good system, inasmuch as the volunteers are strangers to the regiments which they join and the officers of the regiment to them, and it takes some time for officers and men to know each other; and unless the officer knows his men and the men their officer, there cannot exist that confidence between officers and men which is so essential at all times, and more so when on active service.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

Colonel L. W. Buck, Commandant
20th Madras Native Infantry.

Colonel W. A. Gib, Commandant
23th Madras Native Infantry.

Lieutenant-Colonel F. H. Tyrrell,
37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie,
39th Madras Native Infantry.

Brigadier-General H. F. Brooke,
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Brigadier-General A. B. Little,
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(Light) Infantry.

Colonel S. Edwards, Commanding
2nd (Prince of Wales' Own)
Grenadier Regiment Bombay
Native Infantry.

Colonel W. Dannerman, 4th Bom-
bay M.D.S.

Not at all satisfactory. Men so enlisted would be comparatively useless, and not to be depended on in action. It takes at least one year to make an efficient sepoy, and another year for him to acquire the required confidence in himself.

I do not consider it sound, as you obtain a large number of imperfectly-trained men and too young to undergo the hardship of a campaign. If a regiment consisted of four battalions, any one going on field service might obtain two hundred men from those not employed.

It cannot be considered very satisfactory, but still it seems to have answered; and I hardly know what better could be substituted without great expense. I have gone more fully into this subject in my answer to question 16 and those immediately following.

No; it does well enough when we can take our own time and have nothing to fear from our enemy. But if we were opposed to a great military power, our army might be crippled for want of men, long before our new recruits were ready to fill up the gaps in the battalions.

I consider that it takes a year to turn a Native recruit from the South Indian races into a useful soldier.

The present system is to call for volunteers from certain regiments; but I think it very unsatisfactory and unsound. It could only answer for a short time, and would then collapse.

There is no recognized system for increasing the army on such occasions, beyond ordering the addition to regiments proceeding on service of a certain number of recruits. The regiments of this army which proceeded to Malta were filled up to their authorized strength by volunteers from other corps, no difficulty whatever being found in obtaining any number of men for the purpose. When orders were issued for augmenting the regiments* proceeding on service to Afghanistan by 200 sepoys each, the Bombay regiments were at once completed to full strength by volunteers from other corps, who came forward most readily and in much greater numbers than were required; and these regiments are at present of the following strength:—

1st Native Infantry	...	...	...	863 of all ranks.
19th Native Infantry	...	...	...	851 "
29th Native Infantry	...	...	...	820 "

It was not possible to augment the 30th Native Infantry in a similar way, owing to the peculiar organization of that regiment. The results of the above arrangements were satisfactory to the regiments who received trained soldiers instead of recruits; and inasmuch as this measure made those corps immediately efficient, and up to their augmented strength, it was advantageous to the service generally. It is doubtless very undesirable to render one regiment in some degree inefficient to complete another; but as long as there is no reserve from which to draw men to fill up regiments proceeding on service, the course which has hitherto been adopted would appear to be the only one which is possible.

As far as my experience goes, I think the system of increasing the strength of regiments, which I take it, means the army going on service on the outbreak of a war, to be sound; that is, by calling for volunteers from other regiments, and so sending regiments complete as to numbers of ready-made fighting men. But I will mention here that there are drawbacks to this method, some of which are that a commanding officer is not likely to let his good men volunteer, if he can help it; and again a commanding officer would be afraid of letting many, or indeed any, of his men leave his regiment, lest a deficiency in the strength of his corps might lessen his chance of being selected for service.

No, I do not. I am not aware whether the number of men required for increasing regiments to a war footing was obtained on the outbreak of the late war; but when my regiment was called upon for volunteers, 150 men gave in their names. Learning, however, that no advantages in the shape of extra clothing, rations, or batta were assured to them, all but 13 withdrew their names.

This was the case with other corps.

Volunteering is always done in a hurry. Men arrive in batches from various regiments, and have to be armed and accoutred at the last moment. Theoretically, their accounts and documents should be all correct; but practically such is not the case. Hence much trouble and confusion.

If, however, a regiment were augmented from the third regiment of the brigade by the addition of two companies complete in British and Native officers and non-commissioned officers, all hurry and confusion would be avoided.

The present system of increasing the army on the outbreak of a war appears to work with fairly satisfactory results.

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Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Colonel H. S. Ohbaid, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

I have only once personally had any experience of this system. For the Malta expedition 77 volunteers joined the 9th. These all behaved admirably, and were animated by an excellent spirit. From what I saw on that occasion I should say that the system works satisfactorily.

Not quite satisfactory; but without some reserve no other plan was available.

It would be difficult to answer the question except at considerable length. It would depend upon whether the war had the sympathy of the Natives of India, and on the strength of the army it is intended to move out of the country.

The Native of Western India is essentially not a volunteer. He will go cheerfully wherever his regiment is required; and the regiment, as a whole, will volunteer, as my own regiment was anxious to do for Cyprus. But individually they don't care to exchange into another regiment, except for some private object.

The present system is calling for volunteers from other regiments, when you obtain trained men who can take their place in the ranks at once. If you have two battalions to each regiment, this object is gained, with the additional one that the men still serve in their own regiments for which they generally entertain very strong feelings.

Yes; I can suggest no other likely to be more sound or satisfactory in its results.

No, I do not, and for the following reasons. When volunteers are called for to serve with regiments taking the field, the best men will not leave their old regiment. As a rule, only discontented men, who expected promotion and did not get it, men reduced and otherwise dissatisfied with their old corps, will leave; and those who do go have no sympathy with their new corps. Neither are they generally very well received by the old hands of the corps to which they transfer their services.

Decidedly not. From my regiment some of the best non-commissioned officers had to be sent on recruiting duty when the regiment was on service, and in want of its best non-commissioned officers and men.

12. What number of recruits were obtained in the recent augmentation; and what number were sufficiently trained to allow of their serving as effective soldiers with the regiment prior to the termination of the war?

Two hundred and seventy-seven recruits, the first man recruited after receipt of order directing augmentation being entertained on 14th October 1878.

Of these, 178 joined and served with the regiment prior to the termination of the war.

On the 17th December 1878, when I received the order for augmentation, I had 103 recruits on the rolls, and was 24 wanting to complete. I completed to augmented strength by beginning of April. In May numbers went down considerably from invaliding; but at termination of the war I was again within 22 of full strength.

From 17th December 1878 to termination of war I enlisted 289 recruits. Of those 289, 147 had been instructed in target practice, and were sufficiently trained to serve with the regiment as effective soldiers.

One hundred and seventy-nine recruits obtained, not one fit to join by the 26th May, date of signature of treaty.

I have not received the exact return, but 176 is about the number. They were not sufficiently trained for active service at the termination of the war.

The order for the augmentation was issued in December 1878, and 217 recruits were enlisted. I had seen nearly 200 when passing through Meerut (where the depot of the regiment is quartered) in April last when en route to join my regiment attached to the 3rd Infantry Brigade, late 2nd Division, Peshawar Valley Field Force. They appeared to be on the whole a very fair body of men, but were not anything like sufficiently trained to have been effective as soldiers prior to the termination of the campaign, none of them having been fully trained in the manual and firing exercises, with exception of one squad of some 30 men; and these had not then been put through the recruit's musketry course, or even fired blank ammunition. They had been enlisted, I believe, previous to the move of the regiment from Meerut, in November 1878, for Mooltan. All the rest had been enlisted since the order for the augmentation.

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Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

I have only once personally had any experience of this system. For the Malta expedition 77 volunteers joined the 9th. These all behaved admirably, and were animated by an excellent spirit. From what I saw on that occasion I should say that the system works satisfactorily.

Not quite satisfactory; but without some reserve no other plan was available.

It would be difficult to answer the question except at considerable length. It would depend upon whether the war had the sympathy of the Natives of India, and on the strength of the army it is intended to move out of the country.

The Native of Western India is essentially not a volunteer. He will go cheerfully wherever his regiment is required; and the regiment, as a whole, will volunteer, as my own regiment was anxious to do for Cyprus. But individually they don't care to exchange into another regiment, except for some private object.

The present system is calling for volunteers from other regiments, when you obtain trained men who can take their place in the ranks at once. If you have two battalions to each regiment, this object is gained, with the additional one that the men still serve in their own regiments for which they generally entertain very strong feelings.

Yes; I can suggest no other likely to be more sound or satisfactory in its results.

No, I do not, and for the following reasons. When volunteers are called for to serve with regiments taking the field, the best men will not leave their old regiment. As a rule, only discontented men, who expected promotion and did not get it, men reduced and otherwise dissatisfied with their old corps, will leave; and those who do go have no sympathy with their new corps. Neither are they generally very well received by the old hands of the corps to which they transfer their services.

Decidedly not. From my regiment some of the best non-commissioned officers had to be sent on recruiting duty when the regiment was on service, and in want of its best non-commissioned officers and men.

Two hundred and seventy-seven recruits, the first man recruited after receipt of order directing augmentation being entertained on 14th October 1878.

Of these, 178 joined and served with the regiment prior to the termination of the war.

On the 17th December 1878, when I received the order for augmentation, I had 103 recruits on the rolls, and was 24 wanting to complete. I completed to augmented strength by beginning of April. In May numbers went down considerably from invaliding; but at termination of the war I was again within 22 of full strength.

From 17th December 1878 to termination of war I enlisted 289 recruits. Of those 289, 147 had been instructed in target practice, and were sufficiently trained to serve with the regiment as effective soldiers.

One hundred and seventy-nine recruits obtained, not one fit to join by the 26th May, date of signature of treaty.

I have not received the exact return, but 175 is about the number. They were not sufficiently trained for active service at the termination of the war.

The order for the augmentation was issued in December 1878, and 217 recruits were enlisted. I had seen nearly 300 when passing through Meerut (where the depot of the regiment is quartered) in April last when en route to join my regiment attached to the 3rd Infantry Brigade, late 2nd Division, Peshawar Valley Field Force. They appeared to be on the whole a very fair body of men, but were not anything like sufficiently trained to have been effective as soldiers prior to the termination of the campaign, none of them having been fully trained in the manual and firing exercises, with exception of one squad of some 30 men; and these had not then been put through the recruit's musketry course, or even fired blank ammunition. They had been enlisted, I believe, previous to the move of the regiment from Meerut, in November 1878, for Mooltan. All the rest had been enlisted since the order for the augmentation.

Lieutenant-Colonel H. Worsley,
7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris,
Commanding 11th Native In-
fantry.

Lieutenant-Colonel L. H.
Williams, 11th Sikhs.

Lieutenant-Colonel R. J.
Walker, 17th Native Infantry.

Lieutenant-Colonel R.G. Rogers,
Commanding 20th P. N. I.

Lieutenant-Colonel F. B. Nor-
man, Commanding 21st Punjab
Native Infantry.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native
Infantry.

Lieutenant-Colonel G. C. Row-
croft, 33th Native Infantry.

Lieutenant-Colonel F. M. Arm-
strong, Commanding 15th (Rat-
tray's Sikhs) Native Infantry.

Major R. A. Wauchope, 14th
Sikhs.

Major A. C. W. Crookshank,
32nd Pioneers.

Captain H. D. Hutchinson,
40th Native Infantry.

Colonel H. Sale Hill, Command-
ing 1st Goorkhas (Light Infan-
try).

Major A. Estlin, 2nd Goorkhas.

Over two hundred; but none were sufficiently trained to take the field prior to the termination of the war.

Being on leave, I write from memory. About 145 recruits were obtained. They travelled up on an average about 1,000 miles to join their regiment; and although they were frequently very useful in working at roads and entrenchments (for which their previous training as agriculturists particularly adapted them), only one squad of about 30 was passed into the ranks as sufficiently trained before the termination of the war.

Two hundred and sixty-four recruits were enlisted between the months of October 1878 and August 1879. Of these, 199 filled vacancies in the old establishment; 73 only being available for the augmentation ordered in October 1878. Of the 205 recruits enlisted before the termination of the war, only 10 were sufficiently trained to serve as effective soldiers; several of that number being old soldiers who had re-enlisted.

One hundred and fifty-one recruits were obtained subsequent to the receipt of the order increasing the establishment of the regiment, but none were sufficiently trained to allow of their serving as efficient soldiers prior to the termination of the war.

One hundred and ninety-seven were obtained, and ninety-seven roughly trained for hill warfare.

Orders for the augmentation were received on the 13th December 1878. Between this date and the date on which recruiting was stopped 245 men were enlisted for the augmentation; and to replace casualties of this number before the termination of the war, 16 men were performing all the duties of a soldier, and 61 were employed on day duties, such as guards and convoy work.

About 200 recruits were obtained for the 28th Punjab Native Infantry in the recent augmentation; and of this number only some 8 or 10 men were sufficiently trained to allow of their serving as effective soldiers prior to the termination of the war. But these men had all served previously, and were partially trained in other regiments. As a matter of fact, the men who joined us were raw recruits, quite untrained, never having fired off a rifle in their lives, and were practically useless; for the facilities for training them under such circumstances were reduced to a minimum. Not only this, but the men themselves were in many cases vastly inferior in physique to those who would have been accepted at regimental head-quarters in ordinary times. I think I may fairly say the result was unsatisfactory.

One hundred and seventy-five recruits were obtained (not including five or six who were discharged immediately for various disqualifications), but none became effective soldiers before the war terminated.

About 100 were entertained. Some 30 only sufficiently trained to be of any use; and these but imperfectly trained, owing to want of time and opportunity.

Seventy-three in augmentation. None of these were sufficiently trained to serve as effective soldiers.

We got the order on the 15th October at Quetta; and the only recruiting party the dépôt officer could send started on the 1st November. We enlisted altogether 209 men up to the date on which recruiting was stopped; but as we had no instructional staff at the dépôt, no training could be taken in hand till the regiment returned from the campaign, early in June last, since which time instruction has been actively carried on. Had we been able to send instructors to the dépôt, I think 100 men would have been perfectly fit to join the regiment about March in time for the spring operations, had they been continued, and another 100 two or three months later.

About 200 men were obtained. None were ready to join the ranks before the war was ended. Orders to augment were received in December 1878. Recruits began to come in in January 1879, but more in February and March; and peace was concluded in May.

Forty-seven recruits were obtained altogether while the regiment was away on service, 13 of whom were recruits selected from the men sent by the Nepal Government. None of them were sufficiently trained to allow of their serving as effective soldiers with the regiment prior to the termination of the war.

Eighty-eight recruits enlisted during last cold season, not one of whom was able to join the regiment before the termination of the war.

Major F. F. Rowcroft, 4th
Goorkhas.

We only succeeded in obtaining 76 recruits for our regiments; and of that number *not one* recruit was sufficiently trained to serve with the battalion (before the termination of the late war) as an effective soldier. Our recruiting party was at Goruckpore on the Nepal frontier. I may here state that the arrangement by which the Government of Nepal provided recruits for our Goorkha regiments *utterly failed* and broke down. Eighty per cent. were rejected by Goorkha regiments as *quite unfit* for enlistment.

Colonel R. Blair, 3rd Native
Infantry.

About 182 recruits were obtained in the recent augmentation. None sufficiently trained to allow of their serving as effective soldiers prior to the termination of the war.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

Between 12th November 1878 and 1st June 1879, 160 recruits were enlisted. Out of these, 100 were sufficiently trained to join the ranks.

Lieutenant-Colonel F. H.
Jenkins, Commanding Corps of
Guides.

Two hundred and thirty recruits were obtained for the infantry and 63 for the cavalry; 179 recruits were fit to serve with the infantry and 18 with the cavalry.

Lieutenant-Colonel J. J. Bos-
well, Commanding 2nd Sikhs.

Two hundred and ten were obtained, of which number only three (old soldiers) joined the ranks.

Lieutenant-Colonel B. R.
Chambers, Commanding 6th
Punjab Infantry.

The Government order for the increase of regiments up to 800 sepoy was received at Ahabottabad on 26th November 1878, and recruiting parties were sent on the next day. On that date the regiment was ten men below the old strength; and on the 1st February 1879 the increased number had been completed up to 800 sepoys. Out of these enlistments, 6 joined the ranks on the 1st April, 38 on the 13th May, 45 on the 1st July, and 66 on the 28th July. Every effort was made to push the recruits on as fast as possible; and still, had the regiment been on service, the above will show that none of the augmented men could have reached head-quarters in time to have borne a part in the late campaign.

Major R. B. P. P. Campbell,
(Queen's Own) Corps of Guides.

Speaking from memory, as I have no returns to refer to here, about 150 recruits joined the Corps of Guides at Jellalabad under the above circumstances. They had to be put on duty; but care always had to be taken that some old soldiers were employed on the same duty to keep them straight. This, of course, gave more trouble than if they had been trained soldiers. Moreover, it was always a question one asked oneself, how much reliance could be placed on such men should an emergency arise? No opportunity was afforded them of proving their mettle.

About 35 recruits were entertained for the Guide Cavalry. A British officer had to be sent back from the front to purchase remounts.

Major A. G. Ross, Commanding
1st Sikhs.

Three hundred and twenty-four recruits were obtained to meet 11 short on 3rd October 1878.

153 casualties.

160 new augmentation by 1st June 1879.

199 were sufficiently trained by 1st June 1879. All these had fired 30 or 40 rounds of ball ammunition, and a great deal of blank. They knew sentry work, and skirmished well.

Colonel A. Jenkins, Command-
ant 2nd Madras Native Infantry.

My regiment was not augmented during the late war.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

I cannot say anything about the number of recruits obtained; but I do not think one efficient man could have been ready in the time.

Colonel L. W. Buck, Command-
ant 20th Madras Native Infantry.

My regiment was not augmented.

Colonel W. A. Gib, Command-
ant 26th Madras Native Infantry.

There was no augmentation to my regiment. Probably, if the weather was fine, most of the recruits would have joined the ranks in six months; but they usually take longer than that, say from nine to twelve months. It has been seen of late very plainly, I think, that a soldier is not made in a day.

Lieutenant-Colonel P. A. Car-
negy, 39th Madras Native Infy.

I cannot answer this question from my own knowledge; but from what I have heard it was a complete failure.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

As explained in the reply to the previous question, all the regiments of the Bombay army which were augmented, except the 30th Native Infantry, were completed by volunteers. This question therefore does not apply to them; but it may be noted that since that augmentation was authorized 1,618 recruits have been enlisted. It is not probable that any of these men are yet thoroughly efficient as trained soldiers. The peculiar organization of the 30th Native Infantry, which has frequently been condemned as unsuitable, made it impracticable to complete that regiment by volunteers; and the number of recruits obtained by it since the

augmentation was ordered has been only 149, and consequently the regiment now musters only 796 of all-ranks. Successive Commanders-in-Chief since the time that Lord Napier of Magdala commanded the Bombay army have urged the necessity for abolishing the silledar system in the 30th Native Infantry, which has been shown to be neither economical nor otherwise desirable; but these recommendations have not as yet been approved by the Government of India.

My regiment was not engaged in the late war, and received no augmentation.

My regiment was not one of those which was ordered to recruit up to war strength.

The regiment was not augmented.

When the 19th Bombay Native Infantry was ordered to augment for service, it obtained permission, by special sanction, to engage men from the police. Thirty-nine men joined from that force; but they, as well as the recruits afterwards enlisted (39 in number), were left behind at the depôt to be trained, and never joined. One hundred and eighty-one men to make up the full augmented strength volunteered and joined from other regiments.

Ninety-five recruits. Thirty-nine volunteers were given to regiments on service; the remainder were required to fill vacancies caused by the annual invaliding, and struck off on the 31st December 1878. Previous to the termination of the war none of these men were sufficiently trained to serve in the ranks.

A very small number were obtained; and none were trained sufficiently to admit of their joining the regiment on service.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Light Infantry.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) 2nd Grenadier Regiment Bombay Native Infantry.

Colonel G. W. Hanson, Commanding 9th Bombay N. I.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner, Commanding 29th B. N. I.

13. If your regiment were ordered on service, what number of men are there now serving who would be unfit for active service, either on account of age or on account of being recruits?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

From old age	...	...	...	0
Recruits	...	...	...	25
Effect of wounds	...	...	...	1

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

None on account of age; but I have noted 17 men who will be brought before next invaliding committee as unfit for further service from one cause or another. One hundred and twenty-six recruits are not sufficiently instructed to serve as effective soldiers.

Colonel T. Boisragon, Commanding 30th Punjab N. I.

About 7 to 10 trained soldiers, and about 83 untrained recruits.

Colonel E. Dandridge, Commanding 40th Native Infantry.

On account of age 50 of all ranks; average age 43½ years. Recruits, including those obtained after the augmentation, 213.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

I do not consider that in this event any of the men of the regiment would be unfit for active service on account of age; though no doubt the hard duties that have devolved upon the regiment since it arrived at Ali Musjid at the end of March last are beginning to tell on them, the number of sick in hospital during the last month or six weeks having very considerably increased; and though most of these appear to be fever cases of a mild type, still the men become debilitated, and if the sickness continued to increase during September and October, which are reckoned to be unhealthy months in the Khyber, especially at Ali Musjid, there is no certainty as to the effect it might have in making the regiment unfit for active service. No recruits have yet joined from the depôt; there numbers therefore are at present as before stated in reply to question 12. It has also yet to be seen what effect the winter may have on the regiment, even with extra precautions as to warm clothing, &c., the men being, as Hindustanis, so unaccustomed to a severe winter.

About 50 old soldiers and 190 recruits.

In a few months, however, the recruits will be all drilled soldiers.

The 11th Regiment is still serving in the Kuram Valley; and if hostilities were now resumed, I would not hesitate to take the entire regiment on service. There are four or five Native officers, the last of the old *regime*, who might on account of age knock up under very severe

Lieutenant-Colonel H. Werscey, Commanding 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieut.-Col. R. G. Rogers, Commanding 20th Punjab N. I.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. G. Rowcroft, 35th Native Infantry.

Lieut.-Col. F. M. Armstrong, Comdg. 45th (Bathn's) Sikhs N.I.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd N. I.

Colonel H. Boissragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

work; but the recruits are nearly all fit now to join the ranks as trained soldiers, although in a musketry sense they would still remain recruits, owing to the impossibility, for want of appliances, of putting them through the prescribed course.

One hundred and seventy-one recruits have not yet been trained in the use of the rifle, and are therefore unfit.

This is a difficult question to answer, as the health of the men depends a great deal on the time of year. I should say on an average that from 80 to 100 sick men and recruits would be left behind.

On account of age, &c., 15; as being recruits, 53.

On account of age not more than four or five. Of course after ten months of hard work there are men who are not at present physically fit to undergo another campaign until they have had rest and change. I would take all recruits. They can take a great many duties, and thus lessen the work of the old soldiers, and, after two or three months' instruction, are quite able to act with old soldiers against any Asiatic enemy.

As the 28th Punjab Native Infantry has been on active service in Afghanistan during the last ten months, and as all men unfit for active service have been from time to time weeded out, it is probable that not more than 15 to 20 men, exclusive of the recruits, would have to be rejected; but I am bound to say the recruits are now nearly trained.

On account of age or physical incapacity, or as being on sick leave, about 20 of all ranks.

On account of being recruits, 192.

About 50 at present.

None on account of age; 171 on account of being recruits.

The case of my regiment is exceptional, as it is now recovering from the severe sickness which struck it at Quetta and during the campaign. I should say, however, that out of 794 men now in the regiment about 80 or 90 are unfit for immediate active service. Of the recruits, all are sufficiently trained to take place with the regiment, though not perhaps to put in the first line. Napoleon's remark that training is rapidly acquired in war time is no less true now than then.

About 35 per cent. There are over 200 recruits just at present.

There are no men in the regiment who would be unfit on account of age (a special invaliding committee having assembled on 28th May 1879). Forty-eight recruits would be unfit for active service at present, not having been trained sufficiently, and not having gone through any musketry yet.

On account of age	...	...	...	15
Recruits	...	...	...	90

Total ... 105

There are about 50 men who, from age or other infirmities, would be unfit for active service (according to the opinion of the medical officers of the regiment). These men are nearly all to appear before the next medical committee this October. About 80 recruits are unfit for service, being as yet untrained.

About 220, nearly all recruits.

There would remain about—

Weak men	...	...	...	24
Recruits	...	...	...	80

About 24 men would be too old to serve with the infantry and about 12 with the cavalry. In the infantry 54 recruits; in the cavalry 8 recruits.

About 30 men, who have broken down since the regiment started on service. All the recruits present with the regiment are sufficiently trained, except in musketry.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating Commandant 9th Madras N. I.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegy, 39th Madras Native Infantry.

In my regiment at present there are not more than 20 men of all ranks who are unfit for active service from being old and worn-out. There are 32 recruits who are not sufficiently advanced to join the ranks.

About eight on account of age and broken health; five prematurely broken down. Recruits 69.

N.B.—These figures are after deducting for dépôt.

Eight kote lance naiks and a small proportion of Native officers and staff non-commissioned officers.

Thirty-six, I think, are physically unfit for active service, and 35 on account of being not sufficiently trained men amongst the recruits.

Twenty-two recruits, and, roughly speaking, 27 men of all ranks who are over 30 years' service.

Forty. Having 500 efficient privates caused me to make the first remark in answer 1. I have not a private of 30 years' service.

About 20 men would be unfit for service from disease and age. There are 58 recruits. The large number of recruits is owing to the difficulty of getting men at Banda, from which station the regiment has recently returned.

Perhaps four or five men might be considered unfit to go on active service, not more; for there are no old men in the regiment. About a dozen sick would be left behind and 36 recruits; but of these latter, one-half will join the ranks in a month or two. The regiment is up to its full strength of 600 privates.

Twenty men at the outside on account of age, and 30 recruits. We are, however, now 50 below our proper strength, so that in fact we should be 100 privates short if we were ordered on service.

For a Madras regiment, I believe the 39th is an exceptional one, as most of the men are young. On account of age, I should say not more than 25 or 30. We have 70 recruits this day. I append a numerical return showing service of all ranks in the regiment:—

Numerical return of all ranks of the 39th Madras Native Infantry, showing length of service.

Corps.	Under 5 years' service.	Five years and under 10 years.	Ten years and under 15 years.	Fifteen years and under 25 years.	Twenty-five years and upwards.	Total.	Remarks.
39th Madras Native Infantry.	231	157	114	156	46	704*	* This includes Native officers and non-commissioned officers.

Major E. Faunce, Commanding 14th Madras Native Infantry.

On account of age—

8 Native officers.

10 Havildars.

30 Privates.

On account of being recruits, 30 privates.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

In the Bombay army there are at present 17,140 men who are under 13 years' service, 2,815 who are between 13 and 20 years' service, 4,041 between 20 and 30 years' service, and 214 above the latter number of years' service. The large proportion of the sepoys of the army are therefore in the prime of life, and the number of men unfit for service on account of age should consequently be small. Since the beginning of this year 1,367 recruits have been enlisted; and probably a third of these would now be sufficiently advanced to proceed, if required, with their regiments on field service. The following figures show the number of men considered unfit for service and left at the dépôts when the undermentioned regiments proceeded to Malta and Afghanistan:—

Malta	...	9th N. I.,	61
"	...	26th "	57
Afghanistan	...	29th "	12
"	...	30th "	19
"	...	1st "	32
"	...	19th "	21

Brigadier-General A. B. Little,
Commandant 25th Bombay
Native (Light) Infantry.

Colonel S. Edwardes, Com-
manding 2nd (Prince of Wales'
Own) Grenadier Regiment Bom-
bay Native Infantry.

Colonel W. Bannerman, 4th
Bombay Rifles.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native In-
fantry.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

Colonel R. Mallaby, Command-
ant 13th Bombay Native Infa-
ntry.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Colonel A. Carnegie, 21st
Bombay Native Infantry.

Colonel J. Fairbrother, Com-
manding 22nd Bombay N. I.

Lieutenant-Colonel O. V. Tan-
ner, Commanding 29th B. N. I.

Colonel J. Doran, Command-
ing 27th Punjab Native Infantry.

Colonel H. S. Obbald, Com-
mandant 41st Bengal N. I.

Colonel T. Boisragon, Command-
ing 30th Punjab Native Infantry.

Colonel E. Dandridge, Com-
manding 40th Native Infantry.

Colonel G. W. Fraser, Com-
mandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley,
Commanding 7th Beogal N. I.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infa-
ntry.

Not being with my regiment, and not having time to correspond or to obtain *certain* information on points asked, I cannot answer this question; but I think I can with safety say that, to the best of my belief, no man is unfit for active service from age or being a recruit.

On account of age, being over 45 years old	...	31
Recruits	...	58

About 100.

About 35 recruits and some 25 men from physical unfitness; 5 or 6 only of these from age, the rest from diseases of a temporary nature; a large number of our recruits sufficiently advanced to be of use, would be taken on service.

On account of age or sickness probably 40, *viz.*, those who would be invalidated at the end of this year. Recruits from 20 to 30.

None on account of age. There are probably 20 recruits I would not think justified in taking with me if ordered off at once; in a month's time I would take all.

There would be probably about 10 men subject to bronchial affections whom I would leave behind.

At the present moment, if the regiment had again to proceed on service, it would be under its strength as follows:—

Recruits and depôt establishment	...	125
Considered unfit by medical officer	...	100
Now wanting, owing to recent casualties	...	65

Total ... 290 men.

Out of this number a few men might rejoin from the depôt.

None at present at head-quarters unfit on account of age to take the field at the shortest notice; number of recruits unfit, being at drill, 55.

From old age and low physique about 50; recruits 127; total 177.

With the exception of a few who have been knocked up by the recent campaign, and some recruits at the depôt, all are fit.

14. At what age do you consider that Native soldiers become unfitted for the hard work of a campaign?

Depends very much on habits, race, and constitution; but on an average I should say about 40 years.

As a rule at 40 years of age, or 20 years' service.

The sepoys and non-commissioned officers at 40; the Native officers at 50 or thereabouts.

At the ages of 43 to 45.

As a rule between 40 and 45 years of age. But it depends upon the class of men. Sikhs and Punjabi Muhomedans I consider to be the hardest. The higher caste Hindus also, being generally of a better physique, stands the vicissitudes of service longer and better than the inferior castes. The hillmen, such as in this regiment (Kumaonis), knock up after some years of continual service in the plains. The Goorkhas also, though a very hardy race, knock up readily if long exposed to the hot seasons in the plains. The Dogras too in Punjab regiments do not stand many years of continual service in the plains.

Forty years of age.

As a general rule, I look upon 50 years as the age about which a Native becomes unfitted for the hard work of a campaign. I have known some Native officers perfectly efficient over that age, and I would not therefore make any hard-and-fast rule; but, except in the commissioned grade, I would not advocate the retention in the service of any Native over 45 years.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

As a general rule, between the ages of 40 and 45.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

About 45 years old, but many last a few years longer.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Fifteen years, allowing for the extremely heavy duties often imposed on them, and the hardships, &c., of occasional service.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

This depends upon the class of men. In the regiment under my command I consider that the Sikh and Punjabi Muhammadans are fit for work up to 40 or 45. The trans-frontier men, particularly if they have been much away from their homes, do not last so long. The Dogras from the Kangra hills rapidly fall off in the plains; and I do not think can stand the hardships of a campaign after 35 years of age, if so long.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

I consider that Native soldiers are for the most part unfitted for the hard work of a campaign after 45 years of age—very many before that age; very few are fit after it.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Enlisted at from 18 to 20 years of age, a Native soldier, as a selected man to begin with, should be quite fit for the hard work of a campaign till from 35 to 40 years of age.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Depends so very much on a man's constitution. A Sikh, as a rule, is well up to any work of a campaign at 40 or 45 years of age.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

I should say about 38 years. There is, however, one reason which makes it hard to judge. The Native soldier when he reaches his thirteenth or fourteenth year of service, if unpromoted, prepares to qualify for his pension; and for this purpose simulates various ailments, in the hope, which is generally realized, of passing the medical board; these infirmities, it is believed, quickly disappearing as soon as this is accomplished. If the pension rules were altered, I firmly believe a greater number of men would be found physically fit for the service.

Major R. A. Wauchope, 14th Sikhs.

About 40, if he has always been a private.

Major A. C. W. Crookshank, 32nd Pioneers.

Before this campaign I would have said 45; but in Afghanistan the mutiny-medal men, who were that age and more, showed great endurance and immunity from disease. But then they were the *crème de la crème*.

As a general rule, 45 to 50 would be a safe limit. Enlist a man about 20 to 25; and if he is a good man, he will last from 20 to 25 years.

Captain H. D. Hutcheson, 40th Native Infantry.

With few exceptions, after 40 years of age; that is, supposing him to have enlisted at 18 or 20 years old, when he has served for 20 or 22 years.

Colonel R. Salo Hill, Commanding 1st Goorkhas (Light Infantry).

Goorkhas appear to preserve all their *physical* powers up to a very advanced age. It was very remarkable that on the late expedition, in which the regiment had so much hard work and marching, old Native officers and havildars of more than 30 years' service seemed to get through the fatigues as well, if not better, than the younger men, as evidenced by the hospital entries. I consider, however, that no individual should be retained in the service after 32 years' service, when retirement should be made compulsory.

Major A. Battye, 2nd Goorkhas.

Goorkhas.		
If not promoted at	...	45
In the non-commissioned grade	...	50
Commissioned grades	...	55

Major F. F. Rowcroft, 4th Goorkhas.

As a general rule, at from 40 to 45 years of age.

Colonel R. Blair, 3rd N.I.

About 45 years of age.

Colonel H. Boisragon, Commandant 4th Sikhs.

Begin to become unfit for active service about 40. At 45 frequently commence hankering; in some cases scheming (ever difficult to detect and prove) for the invalids. At 50, as a rule, are utterly unfit for anything; in a great measure due to the present pension system, which should be altered more to the favor of Government.

Lieutenant-Colonel J. J. Besswell, Commanding 2nd Sikhs.

Thirty-five or thirty-six. Few are fit for it after fifteen years' service on the frontier, where duty is generally heavy and sickness great.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

I consider five-and-thirty years of age as the limit for the rank and file to be efficient for hard work. Of course there will be frequent exceptions of men with strong constitutions lasting longer.

Major R. B. P. P. Campbell,
(Queen's Own) Corps of Guides.

This is a question very difficult to answer, as so much depends upon the constitution of individual men; but, as far as my experience goes, I think it is only the men with strong constitutions who are really fit for service in the ranks after 18 or 20 years' service.

Major A. G. Ross, Commanding 1st Sikhs.

If all the army served on, I have no idea. As it is, of those who remain on doing long service, I consider privates are unfitted after 15 years' service, non-commissioned officers usually after 20 years, buglers after 20 years, Native officers after 25 years, always excepting a proportion who upset all rules.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

I think that, as a rule, Native soldiers in the ranks cease to be equal to the hard work of a campaign at 45 years of age.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

At about 48 years of age and when they have completed about 30 years' service.

Colonel G. Hearn, Commanding 16th Madras N. I.

Forty as a rule.

Colonel L. W. Buck, Commandant 20th Madras N. I.

At forty-five years of age. About five per cent. last well to fifty years of age.

Colonel W. A. Gib, Commandant 26th Madras Native Infantry.

It varies greatly. With rare exceptions, I should say no *private* should be in the ranks after attaining the age of 45 years, which indicates a service of from 23 to 29 years, according to the age at which they enlisted.

Lieutenant-Colonel F. H. Tyrrell, 27th Madras Infantry.

At the age of from 35 to 40.

Lieutenant-Colonel P. A. Carnegie, 39th Madras N. I.

As a rule between 35 and 40 years of age.

Major E. Fancee, Commanding 14th Madras Native Infantry.

It varies very much in individual men. As an average I should say 40 years of age.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

In my opinion this depends entirely—first, on the amount of care which is given to his selection when enlisted; second, on his having been required during his service to consume a sufficiency of food, and not permitted, either to hoard his money, or spend an undue proportion of it in the support of his family and relatives; and third, on the constitution of each individual. As a rule, however, I should say that a Native soldier of 40 years of age is past his prime.

Brigadier-General A. B. Little, Commandant 25th * Bombay Native (Light) Infantry.

As a rule, I should say after 25 years' service; that is, at or about the age of 43 years.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

This depends on the age at which a man enlists, also on the localities in which he has been quartered. The limit should be better 40 years of age. It would be better in my opinion that men who have served 15 years with the colors should be carefully examined each year; and if not thoroughly fit in every respect, they should be passed on to the first reserve.

On completion of 20 years' service, the transfer should be compulsory, except in the case of Native officers and non-commissioned officers, who should be allowed to serve longer if considered fit in every respect. I do not advocate having all young men in a corps; the retention of some steady and efficient old soldiers who have seen service would be most beneficial.

Colonel W. Bannerman, 4th Bombay Rifles.

At from 40 to 45 years of age.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Generally between 40 and 45. Last year we took some men to Malta of over 50 years. There was no hard work; but the climate of Cyprus was trying, and the old men did not suffer more than their younger comrades.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

This varies very much; on an average 25 years. But many knock up sooner; whilst others are good for active service from 7 to 10 years longer.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Men recruited from the Concan at from 18 to 20 years; from the Deccan and Punjab and Hindustan at from 23 to 25 years.

Of course there are exceptions.

I should be glad not to recruit at all from the Concan; and the relief to the pension list would, I am sure, be great. But I am driven to it, as the Deccan cannot furnish all required by the Bombay army.

Colonel Craigh, Commanding 19th Bombay Native Infantry.

The age varies very much; some men after 18 years becoming totally unfit. I should say 20 to 22 years as an average.

Colonel A. Carnegie, 21st Bombay Native Infantry.

From about 38 to 42 as privates and non-commissioned officers, and 50 as Native officers.

Colonel J. Fairbrother, Commanding 22nd Bombay N. I.

After about 20 years' service; say from 38 to 40 years of age. Some few last longer.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

Thirty-eight, taking 18 as the age of enlistment.

15. Do you consider that there is an advantage in your battalion being called on to serve beyond the limits of the presidency and on the frontier?

Colonel J. Deran, Commanding 27th Punjab Native Infantry.

Yes; I consider every regiment should be prepared to serve everywhere in or out of India, and that foreign service beyond the sea improves the efficiency and mobility of a regiment in every respect, more especially in removing many caste-prejudices.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Decidedly. It enlightens the men, and makes them more serviceable and generally efficient, to have a tour of foreign service; but I am strongly opposed to any amalgamation of the Native armies of the three presidencies. I would have them, and those of the upper and lower parts of the Bengal presidency, kept entirely distinct, and recruited from their own parts of the country only. I consider this very important.

Colonel T. Boisragon, Commanding 80th Punjab Native Infantry.

Every regiment should be called upon to serve on the frontier and beyond the limits of the presidency. They *expect* this *now*; but if not put into practice for years, it will be a question (as with the late Indian army and their Indus battn) whether they would *then* do so *willingly* and *without expecting additional* pecuniary benefits. To Sikhs and Pathans (and I daresay to the other classes as well) nothing becomes more irksome *after a time* than the humdrum routine of cantonments, and therefore change of stations, and with the chances of service on the frontier, duty on the frontier *for a time* would be advantageous and popular; but there should be a *strict* and impartial *tour* kept, and regiments be on a *regular roster* for these moves and for *active service*. Nothing causes more disappointment and a distaste for the service than this *absence of a roster* for active service, and to find *certain* regiments *selected* for service. The men naturally interpret it either to a want of confidence in their regiment, or that it is badly thought of at army head-quarters.

Colonel E. Dandridge, Commanding 40th Native Infantry.

I do not consider it advisable that Frontier and North-Western Provinces and Punjab corps should be located in climates such as Burma and parts of Madras, where the staple food is rice. Regiments would soon become unserviceable from disease.

Frontier, Punjab, and North-Western Provinces corps should serve elsewhere indiscriminately.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Yes; I consider that the general service system, for which all regiments are now enlisted, much preferable to the old one of not being liable to serve beyond the limits of the presidency; and that the recent experience the regiment has gained by its service on the frontier has been most beneficial to all ranks in it.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Every regiment should be for general service; but in time of peace every regiment should, as a rule, be quartered in its own presidency.

I would even go further, and break up the Bengal army into two,—the army of the Punjab, and the army of Hindustan; the former being composed of the Sikh, Punjabi, Beluch, and Frontier corps, the latter of Hindustani regiments; the soldiers of each being raised exclusively from the region in which it is located.

By localizing the armies during peace, we shall prevent anything like a cosmopolitan feeling springing up throughout the army. A broad demarcation between the different armies and a separation of interests will prevent sympathy of feeling or unity of action, so that when one army fails, we may rely on the other three.

Had there been but one army in India in 1857, we should have had every sepoy in the country against us. The more we break up the unity of the army the better.

Moreover, by so localizing the different armies, the adoption of a reserve system is facilitated, and service in the army rendered more popular.

There is no doubt about it. Hindustani corps in the Punjab or Sikh regiments in Bengal do not get as good recruits as those corps that happen to be quartered in their own province or region.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Certainly there is. I am averse to any system that would localize or restrict the sphere of a regiment's service. It would tend to lessen the *esprit de corps* and self-esteem of the men, and is a measure to be altogether deprecated. Subject to the condition of returning periodically to head-quarter stations, I would advocate the principle of general service in its most extended sense. That regiments of one presidency should, without special reasons, be sent to another presidency, merely in course of relief for instance, would not be an economical measure, and I presume is not contemplated; but I see no other objection to it.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, 45th (Rattray's) Sikhs Native Infantry.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 82nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

Yes; the men of the regiment under my command are always most eager to see service in foreign countries.

No.—I think if battalions had to serve beyond their own presidency or on the frontier, it would make the service unpopular.

Yes, decidedly; minds are expanded, prejudices removed, knowledge of our power and resources increased, and greater fidelity ensured. Moreover, every regiment employed at a distance from its recruiting ground becomes more or less a security for the loyalty of the relatives, &c., of the men serving in its ranks.

Yes, decidedly; provided that, when the exigencies of the service permit, liberal furlough is allowed.

I see no very great advantage; but at the same time I can see no possible objection to a Punjab regiment serving out of the presidency or beyond the frontier. So long as the men have an opportunity of visiting their homes every three or four years, I believe they will be quite contented.

I have served in more than one expedition out of India in which Native troops have been employed, and the men were always cheerful and anxious in performing their duties as good soldiers.

I would not consider it advisable to send the battalion to serve in the other presidencies; but I am of opinion that it would be most desirable to send it beyond the *frontier* limits of its own presidency and on the frontier. I consider the experiences so gained would be most valuable in a campaign.

On the frontier certainly, not in other presidencies; at least not too far from their own districts. Furlough and leave difficulties would crop up. The men can ill afford the cost of long railway journeys to and from their homes.

I think it very desirable that it should be called on to serve on the frontier, and in certain cases beyond the limits of the presidency. It is most important, to my mind, that Native soldiers should be made to understand that they must be prepared to go to any part of the world where their services are required; and the best way to do this is by moving them about. I think the encouragement of volunteering for active service injudicious. A regiment should recognize its obligation to go anywhere when ordered. Moving regiments about tends also to strengthen discipline, and to instil habits of ready obedience, besides the effect on the Native mind caused by the extent and power of the British empire, of which they would have personal opportunities of judging.

Very much so. It prevents them becoming grubby and self-conceited; it gives them a knowledge of the world, and of the strength and power of the English nation.

Most decidedly. I think a Native regiment should clearly understand that it has to serve the Empress in any part of Her Majesty's Eastern dominions in or out of India. My views regarding this are that regiments should ordinarily be kept in their own provinces, but periodically employed on foreign service for a limited number of years, either in another presidency or out of India. I deprecate the present system of regiments having no homes and being scattered broadcast over the country, thus rubbing the edges off their caste and religious prejudices, and being familiarized with manners and races they formerly despised.* Madras, Bombay, Hindustani, and Punjab regiments should be worked in the four very distinct provinces of Madras, Bombay, Bengal, North-West, and Punjab; and a percentage from each province sent to serve on the frontier and in the other provinces for 3 or 4 years, returning to their own provinces for 12 or 15. To the want of such a policy is due much of the provincial narrowness and jealousy now existing.

Yes, certainly. Such service must tend to enlarge the experience, enlighten the views, and blunt many of the groundless prejudices of the men.

Yes; for active service I consider that it does regiments much good, and that it exercises a beneficial effect on Goorkhas, who (without seeing a bit of the world) are naturally narrow-minded and vainglorious. It would, however, make the service extremely unpopular if Goorkha regiments were kept a long time on garrison service away from their families.

Goorkhas, being hillmen, suffer more than other men from serving in the hot weather in the plains during peace, and should not be called upon to do so, unless absolutely necessary. Moreover, there being so many family men amongst them with their families in the lines makes it unadvisable to remove them from their own stations, except for field

* To say nothing of its unpopularity, due to the expense the men are put to, and the impossibility of their taking furlough.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel J. J. Roswell, Commanding 2nd Sikh Infantry.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

service. If Goorkha regiments had to take their regular tour of duty at other stations, our service would be less popular amongst them. All regiments of whatever class should be kept in the provinces from which they enlist much more than they are at present.

Certainly, most advantageous. I can speak for my own regiment that the corps universally would be delighted to go on any foreign service out of India and beyond seas. It does the men good in every way, opens out their ideas, &c.

Yes, for short periods.

I consider it advantageous for every corps to serve beyond the limits of its presidency and on the frontier, and even across the seas, whenever necessary. I also think it a great gain serving on this frontier; but I am likewise of opinion that it should be extended to the whole Native army, and not be confined, as at present, to the Punjab Frontier Force alone, which would also benefit by this change.

Yes; troops serving beyond the limits of the province they are enlisted in are much less likely to sympathize with any local disturbance which may occur in the locality where they may be stationed, and therefore may be better trusted. During 1857, neither Madras, Bombay, Goorkha, nor Punjab Frontier regiments sympathized with the mutinous Hindustani soldiery. I doubt the advisability however, except in time of war, of sending regiments long distances from their homes, unless Government grant free passages by steamer or rail to men going on or returning from leave.

I conclude this question refers to times of peace; and I don't think any advantage would be derived by the battalion in being sent beyond the limits of the presidency, except for active service.

This is a question I have not studied, and I do not feel I could give answers of any value to the questions set forth.

Certainly great advantage on frontier. As to presidency I cannot say. I allude to peace service. In war all regiments should go and serve and stay where wanted.

Occasional service beyond the limits of the presidency and on the frontier would be advantageous to the regiment.

I consider it advantageous that the battalion should serve beyond the limits of the presidency and on the frontier, as it does the soldier good to mix with his brother soldiers in other parts, and it would tend to excite a spirit of emulation between the different regiments.

Most decidedly. I could instance my own regiment. We have been, within the last ten years, five years in the North-West and three years in Burma and the Andamans; the regiment has been much improved by serving in distant stations. At least four more Madras regiments should serve north.

It is a great mistake to suppose Madras sepoys cannot stand the climate.

Not only does it do the Madras sepoy much good to serve in the north, but it also does good in many ways to the Bengal sepoys. We are five years with the 3rd and 7th Bengal Cavalry. The men get on well, but they can never be friends. They will not intermarry, or even eat, with each other. Even the Muhamminadans in their religious feasts will not amalgamate. There is no possibility of their ever joining together.

I consider it is an advantage that regiments should serve wherever they are ordered and be accustomed to different climates. I have not found that men suffered in health, if suitably clothed.

Most certainly. I think there is an advantage, unless the men are thrown into debt by it, which need not be. The more a battalion is knocked about, and the more it sees of the world, the better. It cannot, however, be done to any great extent in peace times, on account of the expense it would be to Government. A Madras sepoy eats rice. That grain is, I believe, dearer on the north-western frontier, and the compensation would be heavy. A Bengal sepoy eats wheat flour. That is expensive all over the Madras presidency and in Burma. So that a Bengal regiment in Burma would cost as much as a Madras one on the north-western frontier. I think, however, if flour was cheap where the Madras corps was stationed, that the limit of rice-money should be fixed at Rs. 3 a month; at all events, after they had had six months to become accustomed to it. The 25th took to it kindly enough at Malta; and I believe other Madras regiments stationed in Bengal do the same.

Lieutenant-Colonel F. H. Tyrrell,
37th Madras Infantry.

Lieutenant-Colonel P. A.
Carnegy, 89th Madras Native
Infantry.

Major E. Faunce, Commanding
14th Madras Native Infantry.

The more the men see of the world—and Bengal, the North-West, Burma, &c., are, it must be remembered, as much foreign countries to the Madrassi as a continental country is to us—the better for their qualities as soldiers. They become more enlightened, more intelligent, more self-reliant, are less bound up in caste, less ready to suspect in each innovation or change, however harmless, a covert attack on their caste, when they have mixed freely with people who, while having their own peculiarities, caste, and religious customs, think little of those the strangers bring amongst them. My meaning may be better expressed perhaps by my saying that it would be an education to them, as it is admitted the introduction of railway travelling has been to Natives of India generally. There would be no difficulty with the Madras sepoy. He has in the days long past, when the hold of caste, the dread of crossing the "black water," had a force that in these days we can hardly estimate, shown this by going readily to Java, China, the Straits of Malacca, Bourbon, Ceylon, Persia, Aden, Egypt, Burma. In India he served in the mutiny as far as Gornuckpore to the north, Lucknow to the north-west. He formerly garrisoned Kolhapur, Sholapur, Carwar, &c., in Bombay. During the Abyssinian campaign gave garrisons to Knrrachee and Poona. During the recent campaign he served in the Pishin valley; gave garrisons to Calcutta, Mooltan, Rawal Pindi and has permanently to supply the garrisons of nine stations out of his presidency, besides the garrison of Burma. His proved readiness to serve without question wherever the Government may require, his long and unbroken loyalty to it, which alone it can amongst all its Native troops absolutely count on with confidence, should weigh heavily in the scale if the necessity of reductions arise.

Brigadier-General H. F. Brooks,
Adjutant-General, Bombay Army.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

Colonel S. Edwards, Commanding
2nd (Prince of Wales' Own)
Grenadier Reg., Bombay N. I.

Colonel W. Bannerman, 4th
Bombay Rifles.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native
Infantry.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

Colonel R. Mallaby, Com-
mandant 13th Bombay Native
Infantry.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Colonel A. Carnegy, 21st
Bombay Native Infantry.

I do not know. Foreign service may be of some advantage in fostering a spirit of enterprize and adventure in the men.

Certainly; a very good test of their loyalty to the Government, and also of *esprit de corps*. The more it is practised the better for the Madras army.

Very great advantage; but men should not be kept more than three to three-and-a-half years at stations to which, on account of want of accommodation, or because of distance, they cannot take their families.

A tour of service from time to time on the frontier is, I think, absolutely necessary for the efficiency of each battalion; but service beyond the presidency should be limited to the above tour, and to occasions of active service in the field.

If by the term to *serve* means field service, then undoubtedly advantages are to be gained. But if merely serving in the usual course of relief is meant, then I should say not; for by going out of the presidency the men would naturally be going farther from their own homes, then by incurring extra expense in moving their families to and fro, and on their going on and returning from furlough; and I can see no advantages to be gained. But if for active service, it is in my opinion quite another thing.

Yes, decidedly.

Undoubtedly. Nothing conduces so much to discipline, and to create *esprit* and a soldier-like tone throughout a regiment, and which it never loses. A certain degree of superiority is always conceded to a regiment which has seen service on the frontier and in foreign lands by those regiments which have not been favored with a like good fortune.

Unless under exceptional circumstances in peace times, regiments should, in my opinion, be stationed within the limits of their presidency. A change on this point would not be popular with the men, and I do not see any compensating advantages. In times of war they would of course be called upon to serve anywhere.

Yes, if required for *active* service, but not otherwise. It would make recruiting more difficult if the men were ordinarily stationed at great distances from their homes.

I do. I think the more cosmopolitan a regiment feels itself the better, and the narrower its limits of service the more impressible they are to local influences.

If recruiting from the Concan was less frequent, or even discouraged, there would be less difficulty on the score of the moving of families, which amongst the Concanes are invariably larger than amongst the Deccannees.

Except in case of war or necessity, it would not be popular among the men. In the Bombay army they are very domestic, and, unlike the Punjab regiments, always have, if they can, their families living with them or near at hand. This they could not do if sent to a distance to serve for any lengthened period.

As the Marine Battalion is enlisted chiefly for service afloat, the question is scarcely applicable to it, though it has taken its full share in numerous campaigns. The men would always most willingly volunteer for active service either beyond the presidency limits or on the frontier;

but they would have a most decided objection to leave their own presidency as a permanency.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Yes, decidedly. I consider it of the utmost importance that regiments should be employed beyond presidency limits and on the frontier, and not only that but out of India—in China, Japan, Australia, Tasmania, Cape, Mauritius, Egypt, Syria, Cyprus, Malta; in fact, anywhere between the 40° of north and south latitudes. I have served with a Native regiment in China and Japan which touched at Point de Galle, Penang, Singapore, Hong-Kong, and the Mauritius on their way there and back, and the change worked in the men's minds by seeing so much of the world was astonishing. They were never tired talking of the power of England; for wherever they went they saw the British flag. I served with another Native regiment in Abyssinia, and there also I remarked how travelling opened the men's minds; but not in so very marked a degree as in the first-named instance.

Lieutenant-Colonel O. V. Tanner, Commanding 29th Bombay Native Infantry.

I think the army would be more popular, and consequently recruits would be more easily obtained, if regiments, *as a rule*, were to serve in their own province, including the area recruited from; but they should be sent wherever required for service or special reasons.

16. Do you consider the reserve system could be applied to the Native army?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Yes; I am of opinion that it is applicable to the Native army. But I am not prepared to say how the system should be elaborated or carried out.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

A reserve system might certainly be applied with advantage. A number of men take their discharge annually, thoroughly trained and in all ways fit for further service; and the number might be increased to such extent as necessary, to form a first reserve. Great numbers are also transferred to the invalid establishment annually who are quite fit for garrison duties. These might form a second reserve.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Yes, most satisfactorily; and it would make the service, just now very unpopular, *just the reverse*. Militia service in India would be the most popular (with the Sikhs especially); and this reserve scheme very nearly approaches it.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Yes, very easily; but for garrison duty only.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

With regiments composed of two or more battalions having a dépôt centre, I do not think a system of reserves would be necessary; otherwise I do not see why it should not be applied.

Lieutenant-Colonel H. Worsley, 7th Bengal Native Infantry.

Yes.—We can form reserves in two ways—

(a) by allowing men to enter it voluntarily;

(b) by compulsory transfer after a given number of years' service.

At present a large number of men for domestic reasons take their discharge between their third and ninth years of service. These men would probably enter the reserve if sufficient inducements were held out, and are those who from their comparative youth would form the flower of that reserve.

Lieutenant-Colonel P. Harris, Commanding 11th Bengal Native Infantry.

It appears to me that of recent years when dealing with the Native army Government has always ignored its one exceptional, yet most important and dangerous, characteristic. It has steadily overlooked the fact that the army of India is a mercenary army, not one of patriots. It is obvious, therefore, that measures which would be appropriate in respect to European armies are not always applicable to our Indian

army. I would lay it down as a general maxim that the reposal of power in any large body of Native mercenaries removed from the control of European officers is injudicious; and therefore the formation of Native reserves under the above condition is objectionable in principle, as well as dangerous in fact. Apart, however, from the above considerations, to establish reserves of men additional to the standing army in the manner proposed would, I apprehend, be a most expensive measure, and against the spirit and object of the committee's deliberations. No doubt the existence of some sort of reserve for garrison purposes at time of war is desirable; and I would propose, as an alternative measure, that our present large invalid establishment (men who have had personal experience of the benevolence and liberality of our Government) should be utilized for the purpose. I have been present on several occasions at the periodical payment of pensioners; and I have always been surprised at the healthy and strong appearance of a great number of them—men who had evidently quite recovered from the ailment for which they were invalided, but who still continue to enjoy handsome pensions from Government.

In the province from which my own regiment is recruited (Oudh) there is hardly a village in which a man or two of this description could not be found. It would be a simple matter to have

these men medically examined at their periodical receipt of pensions; and the police officer of each district could easily keep a roll of men found fit for garrison duty. I feel sure a sufficiency of Poorbeahs alone would be forthcoming to garrison the stations of Shahjehanpore, Bareilly, Lucknow, Moradabad, Cawnpore, Allahabad, Fyzabad, Benares, and Dinapore, releasing the regular troops at these stations for field service; whilst, as before explained,* the dépôt battalion would maintain the others at their fighting strength of effective soldiers. When called out in time of war to garrison stations, the reserves should get the pay of the rank they held when invalided.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Yes, with great advantage.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

I consider it would be very difficult to apply the reserve system to the Native army. Native soldiers when not under the direct supervision of European officers soon become slack and useless:

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Yes. With regiments of two battalions, as proposed, the dépôt battalion would be a reserve for active service; and many of the pensioners, now so numerous and yearly becoming more so, are fit for garrison duties, and should form a second reserve, to garrison such posts as they might be required for.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

I do not. That is, if it is meant that there should be a reserve on the English model. Good men would be withdrawn from regiments to the detriment of the regiments; and I do not think that any inducement Government could afford would create a reserve of sufficient strength to be of any practical good. It must be borne in mind that the sepoy is induced to remain in the service, not so much for the small extra pay he may get on becoming a non-commissioned officer, as for the greatly enhanced pension he is entitled to after three years' service as a non-commissioned officer.

Lieutenant-Colonel J. Hudson, 28th Punjab Native Infantry.

I see no reason why the reserve system should not be applied to the Native army. Indeed, I am inclined to think a short-service system with reserves would not be unpopular with Punjabis.

One of the defects of the present system of long service for pension is that it is open to abuse.

It is a notorious fact that men who have completed 15 years' service frequently feign illness; and by the use of Native drugs and medicines reduce themselves to such a condition of inefficiency and weakness, that invaliding boards have no option but to pass them to the pension establishment. A few months or even weeks' residence at their homes soon restores these men to health and strength; and pension paymasters are astonished at the stalwart appearance of those who periodically present themselves for pensions.

There can be no doubt but that vast numbers of men who are now drawing pensions are fully as fit for active service as many who are retained in the ranks.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Unquestionably. I am convinced it would be most popular, and would render available in time of need the services of many men of good character and comparatively easy circumstances, who under the present system are lost to the State. It would tend to bring many recruits to the ranks who now hold back, and retain many men whose family circumstances compel them to apply for discharge, but who would not willingly sever their connection with the service, could they pass the greater part of each year at their homes.

Yes, if carefully constructed.

Lieut.-Col. F. M. Armstrong, Comdg. 45th (Battray's Sikhs) N. I.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

I do, under certain conditions. The first is, that it must be limited in number, as I consider a large reserve composed of young soldiers would be an element of danger to the State. But if the reserve is limited to the number of men actually required to bring up the battalions to a war strength, I see no reason why it should not be applied to the Native army. The second condition is, that certain inducements be offered to make men willing to join, without which the scheme would

fail to attract Natives. The most effectual inducement, in my opinion, would be the prospect of a small pension after a term of years. I would strongly advocate the system of pensions as one likely to draw men to the reserve, and keep them faithful when in it, by the powerful tie of self-interest. The present rules, however, require revision; and I would make the pension obtainable after a longer term of service, irrespective of physical fitness, and applicable to men who pass into the reserve as well as to those with the colors.

Major R. A. Wauchope, 14th Sikhs.

Without a reserve system I cannot see how the Native army could be reduced and kept efficient; and if proper times were selected for the training of the reserves, so as not to harass agriculturists, I think it would be most popular; and once established, with a larger and nearly as efficient an army, the saving would be great. One sepoy would be equal in price to four reserve men; and a battalion that in peace time has a strength of 400 sepoy and in war time 800 would under the reserve system be about Rs. 18,000 a year cheaper than at present, unless of course the reserves were called out. Each sepoy with the colors costs on an average Rs. 8 per mensem, and a reserve man Rs. 2. There would therefore be a saving of Rs. 9,600 a year in sepoy,

from a reduction in the number of Native officers about Rs. 7,000, and of non-commissioned officers and drummers about Rs. 5,500, making a total of Rs. 22,600; and if from that sum is taken Rs. 4,000 for one extra subaltern, there is left a gain of over Rs. 18,000 per annum in every Native battalion in the service.

Major A. G. W. Crookshank,
52nd Pioneers.

Only in a very limited sense, and as a purely voluntary arrangement. To carry out a system of short service and reserve (which is really only applicable to, and successful in, a conscript army) would, in my opinion, be highly impolitic on our part, and most unpopular with the army. The Native soldier generally takes up the army as a *certain* means of subsistence and not merely to tide over a few years. A small class such as the Afridis and a few landowners come in for a time, but not the mass. What the superabundant population want is permanent employment, which is just what the reserve armies do not give.

I explain hereafter my views more fully. Suffice it here to say that it would be a very false policy to apply the reserve system to an alien and mercenary army in a country containing so many elements of disturbance as India has, and composed of castes so easily influenced by fanatical and religious movements. Reserves may answer in the far-off millennium of Indian self-government, but hardly now, except in a very limited sense, and possibly too much so to be of great practical good.

Captain H. D. Hutchinson, 40th
Native Infantry.

Yes, and with great advantage to the State.

Colonel R. Sale Hill, Com-
manding 1st Goorkhas (Light)
Infantry.

Yes; I consider that the reserve system could be applied with great benefit to Goorkha regiments, and that it is absolutely necessary to institute it in order to complete the sedentary battalion in time of war.

Major A. Battye, 2nd Goorkhas.

To a certain extent yes. Captain H. S. Anderson of the 12th Khelat-i-Ghilzie Regiment wrote a paper on this subject in the Journal of U. S. I. of India, No. 36 of April 1879, which is worthy of attention. Such a reserve would not, however, be required for Goorkha regiments, which should always be on a war footing, even if it was possible to raise one; but I do not think it is, as it is quite the exception when a man takes his discharge, nor would it be advisable to encourage a good man to do so, as the difficulties of recruiting are sufficiently great already. If a reserve of 200 men per regiment (other than Goorkhas) was found to answer, the system could easily be extended.

Major F. F. Rowcroft, 4th
Goorkhas.

No, certainly not, and for reasons too numerous to enter into in this document.

Colonel R. Blair, 3rd Native
Infantry.

I think so.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

Yes; I think the reserve system can well be applied to the Native army. I have already replied more in detail on this point in my answer to question No. 5.

Lieutenant-Colonel F. H. Jen-
kins, Commanding Corps of
Guides.

Yes; but I cannot suggest any method of creating a reserve without adding to expenditure.

Lieutenant-Colonel J. J. Bos-
well, Commanding 2nd Sikhs.

Yes; but to enter fully into this important question would occupy too much space.

Lieutenant-Colonel B. R. Cham-
bers, Commanding 6th Punjab
Infantry.

I believe an effective reserve scheme could be worked out. I think it would be popular with the Native army; it would (to a great extent at all events) supplant the present invaliding system, which must be an enormously expensive one, and is a pernicious one.

Under existing rules no Native officer (short of 32 years' service), non-commissioned officer, or sepoy can voluntarily retire on a pension; but if a man can (after 15 years' service) pass an invaliding committee, and be declared physically unfit for the ordinary duties of a soldier, he gets a liberal pension in accordance to his rank. The present pension rules are expensive to Government, and unsatisfactory to regimental officers.

Major R. B. P. P. Campbell,
(Queen's Own) Corps of Guides.

I do not consider the reserve system which obtains in the British and Continental armies could possibly be applied to the Native army.

The expense would be enormous, and Government would not gain their object if they attempted to form a reserve separate from the regimental system.

A collection of Native soldiers, without company or regimental organization, would have no cohesion among themselves, and would be little better than an undisciplined mob, but far more dangerous. Natives require to feel themselves comfortably settled among comrades with whom they have been associated and officers whom they know before it is possible to get real good work out of them.

Supposing officers were appointed to command of districts and brigade depôts, as in England, fancy how long it would take to get up any feeling of sympathy between the scattered men and the officer in command, whom they would only see for a month every year? Then this officer goes on furlough, or is removed to another appointment; and the men are left again as unsettled as before.

Major A. G. Bois, Command-
ing 1st Sikhs.

I do not know much about it; but I think it could be easily supplied.

Colonel A. Jenkins, Commandant, 2nd Madras Native Infantry.

I do not consider the reserve system could be applied to the Native army with advantage to the State; for I think it might be detrimental to its welfare, throwing large numbers of trained men without employment loose on the country, away from their British officers and from their regiments.

Colonel W. Osborn, Officiating Commandant 9th Madras N. I.

I consider the reserve system quite inapplicable to the Native army.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

The reserve system could not answer in Madras; it would be an impossibility; the habits and feelings of the men are opposed to it.

There is seldom or never a case of a man wishing to leave the service; and any man who does so would never be willing to serve in the reserve. Should a reserve be formed and men be got to enter it, they would never rally when called on. They may be got to receive the pay, but they would be absent when required. The few Bengalis we have would most probably leave the service and join the reserve.

The Madras sepoy is peculiar; he has not a thought outside the regiment; the regiment is his village; his family and friends are there. A Madrassee once a sepoy, never again takes to any trade, &c.; he has no thought other than serving for his pension. It is more difficult to make a soldier of him than of men of the North, but when he is once efficient he has no idea of ever leaving the service.

I am certain the reserve would not answer; it may flourish at first; but in times of need it will be a failure: not only will there have been a useless waste of a very large amount, but Government will find itself without the support it relied on in the reserve. The above refers to Madras, but in Bengal the reserve will most probably fill; but whether in time of trouble the reserve would be for or against Government is doubtful. Reserve men who have been for some time in their villages with their friends most probably would side with their friends. Sepoys out of hand, away from discipline, are not sepoy.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

I consider that it would be very difficult to induce men to serve for three or four years, and then return to their villages with a small monthly payment. The great inducement now to enlist is the certainty of a provision for life.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

This is a difficult question to answer; so many things are involved in it.

As a rule, in the Madras army a man enlists to earn a living. He joins it with the intention of staying in it as long as he can, and then retiring on his pension when his children are old enough to assist him.

To get such men as these to go on the reserve whilst they were fit for soldiering, the Government would have to deal liberally, and it might cost more than it was worth. A sepoy's pay is only just enough to live upon, so how could he live on the reserve on less? There are, however, a good many men in the Madras army who own small properties in land or houses. These might be induced to join the reserve, and perhaps, were such a thing initiated, it might draw some tolerably well-to-do people, who would not otherwise have joined the service.

Then the question arises would such people in the reserve, being called out, make good and efficient soldiers in the field? I think it is doubtful. They would do for garrison duty or in ferts, or such like; but for hard work the generality would be very much out of training. There would also be a difficulty in the matter of boots. They would be quite out of the habit of wearing them, and would probably get lame at first and unable to march; and an infantry soldier that cannot march is much worse than useless, for he has to be carried.

He could not well go without his boots, for his comrades would hurt him with theirs, and besides it is a different thing a man walking alone picking his steps to marching in the ranks, particularly at night. Men who had taken to sedentary habits would not be able to stand hard work, and would be like many of the reserve in the German army in the Franco-Prussian war, who died of fatigue in the first few marches.

How the system would succeed can only, I think, be ascertained by trial.

I think I should prefer allowing a certain number of men of good character to take their full pension after 25 years' service, to be called out to drill for 30 days once a year, and be liable to be called out for garrison duty in case of a war, until they had completed 32 years' service.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

I doubt it; it is difficult to combine a reserve system with voluntary enlistment. Our own new reserve system in England has never had a fair trial yet. In Madras the sepoy is a man who takes to soldiering for his livelihood and expects to remain in the army all his life, or as long as he can. But I think the idea is worth a trial.

Lieut.-Col. P. A. Carnegie, 39th M. N. I.

Not the present system in force in England, but in a modified form.

Major E. France, Commanding 14th Madras Native Infantry.

I would strongly condemn any system of reserves and short service in the country. Moreover, holding, as I do, that the Native army of India is now on its lowest peace footing compatible with the security of the country—though Madras and Bombay were indented on, Bengal regiments had to be increased to 800 privates the other day, suppose other local disturbance similar to the Rumpa one had arisen?—and that the duty exacted of the men, even allowing for all possible reduction thereof, is not only too heavy and over-taxes them, but is detrimental to their efficiency in preventing any effective instruction of them in sufficient numbers. I do not think the establishment of a reserve with a consequent reduction of the number of men under arms would be advisable. We have as it is skeleton companies and battalions; and commanding

officers who would wish to go beyond the beaten track of parade ground manoeuvres, and really to instruct and make efficient their men for the field at any moment by drilling them in marching order, by combining instruction in digging, and properly using shelter trenches, pits, use of sand-bags, hedges, &c., with such drill, by instruction in fighting in extended order at a distance from parade grounds in marching order, by parade for rifle instruction outside the limits of a range, have to remember the heavy nature of the men's guard and orderly duties, and therefore sacrifice the really important things.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

There can be no doubt that the existence of a reserve from which men could be drawn to fill regiments up to their war strength would be highly advantageous; and if it could be established without reduction of the rank and file of the army, and if the danger referred to in the following question could be guarded against, I would advocate its formation; but both these difficulties seem almost insurmountable, and I consider the want of a reserve a lesser danger than those which would result from a reduction of the army, or the scattering over the whole face of the country in districts far remote from European supervision, a large number of drilled soldiers set free from the control of discipline, and the influence of their officers.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

I think a reserve system might be applied to the Native army, but I should have grave doubts if it would be a wise measure to carry it out to any extent; as one great object, I take it in forming the reserves in England and Continental nations in the present day is to make soldiers of the entire or greater portion of the male population, or at least give them to a certain extent the training of a soldier, and I doubt much if this would be a safe measure in India.

Colonel S. Edwards, Command-
ing 2nd (Prince of Wales' Own)
Grenadier Regiment, Bombay Na-
tive Infantry.

Yes, to a limited extent and in the manner given in the subsequent answers.

Colonel W. Bannerman, 4th
Bombay Rifles.

I do not consider the reserve system could be applied with beneficial results to the Native army of the Bombay presidency.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native
Infantry.

The experiment would be a dangerous one, for the reason given in the next answer. I do not think a reserve advisable.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

I don't see why it should not, though not the same system as the British army.

Colonel R. Mallaby, Command-
ant 13th Bombay Native Infantry.

Certainly not. The success of the reserve system depends on the population having the same interests in our foreign policy, and being stirred by the same sympathies for the objects of a war.

In England, France and Germany, where the people enter with enthusiasm into it from a sense of its justice, expediency or other motives common to all, the reserve system will always answer.

But the case is very different with India. I hardly know of any object, governed as India is by aliens, which would of necessity invite the sympathies of all the nationalities, while I can readily conceive cases in which those sympathies would be antagonistic and enthusiasm impossible.

Besides, when the Native leaves his regiment for his home, except in the case of a few warlike tribes, they give up all idea of soldiering and settle down domestically, surrounding themselves with ties, which to the Native mind it is almost impossible to break even temporarily.

I would rather not accept such men, as they would do more harm than good in the regiment.

Col. Creagh, Comdg. 19th Bn. N. I.

I think it would be feasible and likewise popular.

Col. A. Carnegie, 21st Bn. N. I.

No; I consider there would be grave objections to it.

Colonel J. Fairbrother, Com-
manding 22nd Bombay N. I.

I believe not with advantage.

Lieutenant Colonel O. V. Tanner,
Commanding 29th Bombay N. I.

Yes, with advantage.

17. Do you consider that in the case of popular disturbance men in the reserve would respond to the call to join their colors, or would they be likely to make common cause against Government?

Colonel J. Doran, Command-
ing 27th Punjab Native Infantry.

I have no reason for thinking they would not remain as staunch and loyal as the men already serving with the colors.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris, Commanding 11th N. I.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel F. B. Norman, 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Battray's Sikhs) Native Infantry.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Ordinarily they would respond to the call; there might be cases in which they would not. I see no reason to suppose they would be more likely to rebel against the Government than men with the colors, the police, and all other Government employés. Greater loyalty could not be expected from them.

This depends upon the constitution of the reserve, and whether Government makes sufficiently *liberal* yet *strict* rules. The reserve would take the tone of its regiment, and identify itself with it. If the *regiment* remained staunch, the reserve could be thoroughly depended upon to join the colors.

I am of opinion that the reserve men, who would chiefly be of mature age, would, as a rule, join their colors, a pension being highly prized.

I consider that the fidelity or otherwise of the reserve men would depend in great measure on the cause and nature of the disturbance. If it arose from anything that personally affected themselves, their families, or the class to which they belonged, they would probably side against Government, but otherwise I think the prospect of losing their pensions would tend to keep them faithful.

They would, I believe, respond to the call if the disturbance were in other provinces than their own.

Vide answer 16.

I feel sure that the majority would respond to the call to join their colors rather than fight against Government.

I think it would depend greatly what the popular agitation was about, and whether it affected the agricultural interests of the reserve men closely.

They would, with but few exceptions, side with our Government. Failure to do so on the part of any man, without adequate cause, would of course involve forfeiture of pension to himself and all related to him.

I think they would either make common cause with the malcontents, or be so lukewarm as to be a cause of uneasiness. The great benefit of moving regiments to long distances from their homes is to weaken local ties. Men of the reserve would soon imbibe all the feelings of the civil inhabitants. I consider that it would be most hazardous to maintain a large body of men with a military organization, and who would not at all times be under the supervision of British officers.

This is a somewhat difficult question to answer; but if the recent enactments of Government in regard to the possession of arms are carried out, it is difficult to understand what encouragement there would be for unarmed men, in the receipt of a retaining stipend from Government, to array themselves against that Government, which would of course be backed up by the armed battalions of its regular army; moreover, it is to be hoped that their previous service with the colors would have had the effect of implanting in the minds of the reserve men a certain amount of respect for law and order, in the due preservation of which even the smallest community is interested.

And after all I can see no reason why men serving in the reserve should be less loyal to the State than they were when serving with the colors. At all events, I think the contingency is sufficiently remote to warrant the trial of the reserve system.

I think that the mass would at once rejoin their colors; the exceptions would be very few. I am of opinion it should be made a reward and privilege to be allowed to join the reserve, so that men of good character only should be passed into it, all others being discharged on completion of a certain term of service.

We have the experience of the mutiny before us. The influences which affected men then exist now more or less with certain classes. A portion would undoubtedly join the colors: a portion would be equally certain to make common cause against us.

I think they would respond to the call to join their colors if the reserve was formed on the principles stated in answer 16.

If they had no means of obtaining arms, I think they would be unlikely to go against Government; but in a district where there were thousands of trained soldiers (our reserves), and the arms were kept in charge of guards of their own class, I think there would be a risk.

Major A. C. W. Crookshank,
32nd Pioneers.

I would say that, except in small numbers, they would not join their colors, but would rather make common cause against Government, particularly where the disturbance is due to caste or fanatical influence; and I would not blame them. For instance, in an Afridi coalition, on which side would the Afridi reservists stand? In a rising due to Wahabi preaching would the "faithful" reservists, living under its direct influence, leave their leaders to serve against their co-religionists; if so, their chance of paradise would be doubtful: or in a small way could we expect the Rumpia rioters to answer the call? But we need only go back to the mutiny days to find that the furlough men made common cause with the rebels rather than rejoin their regiments; and this was probably the case during the Fenian disturbances in Ireland.

Men serving in the ranks and under discipline may stand firm, and do good service against a cause with which they sympathize; but it is against human nature to expect a man in the reserve to come forth from his people in the cause which is his own and act against them merely from a sense of duty to an alien Government.

Captain H. D. Hutchinson,
40th Native Infantry.

A great deal would depend upon circumstances. Under a good system I have not the least doubt that they would join the colors. The inducements and pressure put upon him would have to be extraordinary before a reserve man would risk forfeiting his pension.

Colonel R. Sale Hill, Commanding
1st Goorkhas (Light Infantry).

I feel sure that a reserve would be popular amongst Goorkhas, and that in time of disturbance they could be thoroughly depended upon to be loyal to the State. They would hold all the hill stations securely, and, if in sufficient numbers, might be utilized in helping to garrison Amritsar, Lahore, &c., in case of necessity.

Major A. Battye, 2nd Goorkhas.

So much would depend on the cause of the disturbance. But the fact of their being enrolled soldiers, drawing pay and being subject to martial law, would operate greatly in favor of their siding with Government.

Major F. F. Rowcroft, 4th
Goorkhas.

In answer to question 17, I am of opinion that, if a reserve *was* instituted in the event of a popular disturbance, the majority of men in the reserve would be inclined to make common cause against Government. With reference to questions 18 to 25, they need no answer, as my opinion is adverse to the reserve system for the Native army.

Colonel R. Blair, 3rd N. I.

As a rule I think they would respond.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

In the case of a popular "disturbance," up to a certain point the "reserve" (extend this to all our Native troops and the people of India) would be faithful to us; beyond a certain pressure (especially if religion, or rather *caste*, was implicated), they would "make common cause against the Government," and in favor of their own nationality, and this is only natural.

The mutiny of 1857 proved this, "and history repeats itself," though there were many noble examples (though unnatural) in our favor. It must never be forgotten that *we* are aliens in this country, holding it mainly by conquest, and shall ever have to do so, and that they are simply "mercenaries" (here may be recalled the same system and the result in all history, ancient and modern). Even in Europe, excepting England, very surely will the Continental armies coerce their own people; how then can we *rely* on our Native troops with every instinct, and naturally with their own people, and against a foreign race as we are?

Lieutenant-Colonel F. H. Jen-
kins, Commanding Corps of
Guides.

Popular disturbances do not occur in India without warning. It is only in countries where the Government is tyrannical and oppressive, and where the people have personal wrongs for which they can get no redress, that sudden outbursts of rebellion occur. The reserve should be composed of steady old soldiers, and they should be called up from districts in which disturbances are likely to occur before they become compromised.

The English system of forming a reserve is not suitable to India. It would not be wise to send a lot of raw half-trained men adrift amongst the population. They could not live on their reserve pay if it was small, and many of them would re-enlist either in our regiments or with Native Princes. No one can be confident that such men would turn up in the event of war, and those that rejoined their regiments would be no use.

Lieutenant-Colonel J. J. Bos-
well, Commanding 2nd Sikh In-
fantry.

I feel confident they might be depended on, and would not go against Government. Certain classes should not be taken in the reserve; Pathans from beyond the border, for instance: they cannot be depended on as a body.

Lieut.-Col. B. R. Chambers,
Comdg. 6th Punjab Infantry.

Major R. B. P. P. Campbell,
(Queen's Own) Corps of Guides.

Major A. G. Ross, Commanding
1st Sikh Infantry.

Colonel A. Jenkins, Command-
ant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating
Commandant, 9th Madras Native
Infantry.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

Colonel L. W. Buck, Command-
ant 20th Madras Native Infantry.

Colonel W. A. Gib, Command-
ant 25th Madras Native Infantry.

Lieutenant-Colonel F. H. Tyr-
rell, 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carne-
gy, 39th Madras Native Infantry.

Major E. Faunce, Commanding
14th Madras Native Infantry.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Vide answer 16.

I believe the men would be so dissatisfied and unsettled, that no reliance whatever could be placed upon them during a popular disturbance. The evil and ambitious spirits among them would certainly join heart and soul with the people of the country.

Depends on style of disturbance. If it be sufficiently national or religious, all foreigners will join their own people.

In such large masses of men there would necessarily be many who, through poverty or employment, would come under the influence of designing men. They might fail to respond to the call to rejoin their colors. Well-to-do men, I think, would respond to the call for their services, if assured full compensation for loss of situations and employment forfeited by them when so responding to the call of Government.

I do not think that the men would be likely to make common cause against the Government; but I think that in the event of a sudden call for the services of the reserve, the men could not be relied upon to respond to the call, inasmuch as the Native soldier when once removed, as he would be if in the reserve, from active military duty, would give up all ideas of soldiering, and cling only to the cultivation of his field, or whatever employment he was engaged in; and if suddenly called out for service, he would do all in his power to evade the orders so as to escape the hardships and privation of a campaign.

As I do not believe it is possible to have a reliable reserve of mercenary troops, it is useless my replying to these questions.

Should the reserve in case of an outbreak join against Government, they could easily arm themselves with the weapons of the police which are distributed all over the country. In the late Rumpu disturbance, the rebels provided themselves with police carbines and ammunition. Is it desirable that there should be army and ammunitions loose all over the country? Would the number of arms at present in charge of the police amount to 25,000?

I consider that in a time of popular disturbance they would certainly join their own relations and friends against the Government.

Impossible to say. The old style of sepoy would probably stick to his colors, but I think the new style of enlisting, having reference to a reserve, would bring a new style of men into the ranks; and if the cause of the popular disturbance affected himself as well as his neighbours, he would probably side with them. Once a man is enlisted, the more distinct he is kept from the population the better. This has always been the policy of Government, and that is why Native regiments used to be moved from stations every three years. In the mutiny, however, many pensioners joined in the defence of the Residency at Lucknow, and that is about the only precedent we have to go by.

The men in the reserve would follow the example of the army; if it remained faithful, they might be expected to join the colors.

The Native army is composed of mercenary soldiers, and I think it would very much depend on how they were themselves affected by the grievance, and the inducements held out to them. I believe we are not greatly liked by the people of the country.

Where there is room for distrust of men actually serving,—as must always be the case with mercenaries, especially when they are a conquered race serving their conquerors in their own country,—there must be room for more than doubt whether a large reserve of trained men with far smaller ties, without the restraints of discipline, living scattered amongst, and intimately connected by interests and family ties with, the civil population—indeed practically forming part of it—would not make common cause with their compatriots against an alien Government in any general rising of the people. Which side did the pensioners in Northern India take in 1857?

The experience gained from recent events in the Deccan shows the danger which might result from having a large number of trained soldiers, in the prime of life, scattered about the country. The leader of the late disturbances appears to have been able to enlist, in the Nizam's territory, many men partially trained to arms, the number apparently being only limited by the means at his disposal. There is no reason to suppose that these men were actuated by any special hostility to the British Government; they simply wanted employment, and military service was more congenial to them than any other work. It is true the cases are not altogether analogous, as these men were not our

subjects ; while we may fairly expect a certain amount of loyalty from those who have served in our army for some years, who are still receiving our pay, and who would forfeit material benefits by accepting service from any one else. At the same time too much should not be looked for from men situated, as these reserve men would be, in the midst of their relatives and fellow-countrymen, who would use every persuasion, and probably force, to prevent them rejoining their regiments. I think therefore the danger indicated in the latter portion of this question is real, and should be guarded against.

In case of popular disturbance, I think *single* men of the reserve would join the colors, provided they had no great distance to go ; but I think family men would, with the country in an unsettled state, be afraid to leave their homes and families unprotected, and though with possibly every good inclination to do their duty to Government, yet they would find home ties too strong to permit them to do what they ought.

I do not think they (the reserve) would make common cause against the Government.

If the men are passed into the reserve at an early age, they would be likely to make common cause against Government in any executive popular disturbance, more especially the Mussulmans. For this reason I recommend that the first reserve should consist of police or local battalions, thus giving the men employment and keeping them under control until a more advanced age, when they might with greater safety pass into the second reserve.

There is also the danger of reserve men obtaining employment in the armies of Native States ; this should be guarded against.

I am of opinion that the men in the reserve (in receipt of *proportionate pay*) would fully understand they still were on the strength of the army, and in the case of popular disturbance would respond to the call, and would not fail to join their colors, and would not make common cause against Government.

In the event of popular disaffection in any part of the country, and more especially should the Native independent States be at any time inclined to give trouble, the reserve men would to a certainty be tampered with, and might probably be found acting against us were sufficient inducements offered to them.

This would depend mainly on the terms on which they were drafted into the reserve.

It would not do to *compel* men to join the reserve, but those doing so voluntarily, with the understanding that their services were still available in case of emergency, would, I think, be forthcoming.

In case of political disturbance, some danger might be anticipated.

In answering the question it would be well to consider the actual position of the Native. When he joins his regiment as recruit, he had hardly arrived at an age when he had formed domestic ties which have so powerful an influence on the Native mind ; except as far as caste bound him, he might be said to be free. When he leaves his regiment for civil life, he has already added the ties of family, multiplied by those that come to him through his wife, whose relations may probably be on the popular side. Is it to be wondered at if he shows a reluctance to join the side which would place him in opposition to them ; caste influence, patriotism (in his view), family ties are against him.

The fact of his being a trained man would make him more valuable to the disturbers of order, and they would proportionally bring their influence to bear on him to retain him.

He might not join actively against the Government, but he would at least be a dangerous ingredient to introduce at a critical time into a regiment. While with his regiment his surroundings would keep him straight ; but once he has felt himself a civilian and free from discipline, his then surroundings would draw him in an opposite direction.

That would depend very much on the nature of the disturbance ; but in the Bombay army the men are very loyally disposed, and it would be a very strong personal reason that would cause them to take part against Government, knowing besides, as they do, that their future support in the matter of pensions depends upon their allegiance.

They might be induced to act either way according as they considered best for their immediate interests at the time. I consider the establishment throughout the country of a trained reserve would be fraught with much danger, and might at some unforeseen moment cost us far more than the present system, expensive though it may be considered.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

Colonel S. Edwardes, Command-
ing 2nd (Prince of Wales' Own)
Grenadier Regiment, Bombay
Native Infantry.

Colonel W. Bannerman, 4th
Bombay Rifles.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native In-
fantry.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

Colonel R. Mnlaby, Command-
ant 13th Bombay Native Infantry.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bom-
bay Native Infantry.

I pass over questions 18, 19, 20, 21, 22, 23, 24 and 25 on account of my decided objection to the reserve system being introduced in India.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

I believe wherever they were most likely, or supposed they were most likely, to derive benefit quickly, there they would go; and if the chances were equal, they would make common cause against the Government, law, and order.

Lieut.-Col. O. V. Tanner, Commandant, 29th Bombay N. I.

Many would join their colors.

18. After what number of years' service would you pass a soldier into the reserve, and how long should he be called on to serve in the reserve before being able to claim pension? What should be the pay given while in the reserve?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

After 15 years' service pass into the reserve, and at end of 22 years be entitled to pension.

I am not prepared to say what pay should be given to men in the reserve.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I would enlist for six years' obligatory service instead of three as at present. After three years' service I would allow men to pass into the first reserve for another three, at the end of which time they should return to civil life. Similarly, I would allow men of more than three years' service, and up to twelve, to pass into the first reserve for three years.

I would not allow service in the reserve to count for pension, but would rather make it a means of resting the army without pension.

I would not give any pay to men in the first reserve. I would give a gratuity which would answer better, and enable the men to establish themselves as cultivators, or in any line they might fancy, say 10 rupees for every year of service. The men of three years' service would get sufficient to purchase his bullocks, &c.; the men of twelve years' service would get enough to establish himself comfortably, and would be bought off the pension list.

For the second reserve I would give the present rates of invalid pay, so long as the men are able to take garrison duty. When they are no longer fit for any duty, and finally pensioned, I would reduce the pay by a fourth.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

18, 19, 20, 21.—*Enlistment; reserve; pension.*

Enlistment for five years.

Re-engagement for such men as may be selected by commanding officers (who should have the sole responsibility) for a second five years, a third re-engagement (of selected men) for a third period of five years.

Men not re-engaged after first period of five years, on account of misconduct and bad character, to be paid up and discharged without gratuity.

Men not re-engaged on account of weakly constitution but good character to be discharged with gratuity of three months' pay.

Men not re-engaged after second period (*viz.*, ten years' service) on account of health (unless completely broken down, in which case they should be discharged with six months' gratuity) to be passed into the first reserve. After five years in first reserve, pension of fifteen years' service or re-engagement for three years for second reserve.

After fifteen years' service with the colors, pension to such men as have completely broken down; option to continue further service with colors of such able-bodied men who wish to serve, and whom it is desirable to keep or to pass into first reserve for a period of three years.

After three years in first reserve increased rate of pension to men unfit for any further service, or to be passed into the second reserve for two years, then another increased to rate of pension.

Duties of first reserve.—To take in turn, to the extent required by Government, one month's duty (in their own district commands) as "garrison orderlies," &c., and to furnish escorts, &c. To assemble at their district head-quarter centre for three months.

Drill and musketry.—The time for this to be chosen when there is neither sowing nor reaping going on.

Full pay at present rates, *viz.*, havildar 14, naik 12, and sepoy (15 years' service) 10 while on duties and drilling.

Rs. 4 a month to all non-commissioned ranks and sepoy alike while at their homes.

All men of first reserve to join regiment when ordered on service or for duties and drill within fifteen days of notice.

Any man failing to do so to be summarily dismissed and forfeit all claim to pension; strength of first reserve not to exceed 500 of all ranks.

Duties of second reserves.—To take in turn two months' garrison guard duty (forts, treasury, &c.) in the year.

Full pay of rank while employed, second rate (18 years) of pension while unemployed.

On the first reserve joining its regiment for service, the second reserve to furnish the escort and orderly duties of first reserve, and to be liable to be called together *en masse* for fort and garrison duties during the continuance of the war.

Penalties for not joining within fifteen days of notice the same as for the first reserve, summary dismissal and forfeiture of pension.

N.B.—The second reserve or "garrison invalid battalion" might be introduced at once at the next annual invaliding, and also the nucleus formed of the first reserve.

The rosters and returns of the reserve should be kept by the second-in-command of the regiment and one of the European company commanders as his adjutant of reserves, and a small additional salary should be allowed to these officers for these duties.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Compulsorily after 25 years' service, voluntarily after 18 years' service, on the usual pension. After 25 years' service a pensioner should be called upon to serve in the reserve if required for 8 years, during which period he should receive rupee one per mensem extra. After 18 years' service he should be liable for service for 15 years on the same terms.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

He should serve, I consider, twelve years before passing into the reserve, and be liable to serve thirteen more years in the latter, *i.e.*, a total service of twenty-five years before being entitled to claim a pension.

While in the reserve I would recommend his getting full pay when training, and Rs. 3 for the remainder of the year: the latter to be paid in a lump sum on joining for annual training.

I would allow—

- (a) men to pass into the reserve after 5 years' service;
- (b) but would not compulsorily transfer men till after—
20 years' service, if non-commissioned officers,
15 years' service, if sepoys.

To men compulsorily transferred to the reserve, I would give the usual rates of pension after 25 years' total service.

To men of class (a) who voluntarily enter the reserve, I would give a reduced rate of pension—

Rs. 5 for non-commissioned officers,

Rs. 3 for sepoys,

after a total service of 25 years.

To men of class (b) I would give pay equal to what would be their pension.

Men of class (a) should only get pay when embodied or out for training. The inducement held out to them should be *prospective pensions*.

If you merely give pay and no pension, as in the British army, you have no real hold of the men. They are mercenaries, and will not return to the colors from motives of patriotism; you must bribe them with love of pice. A man will draw his monthly pay as long as short training is the only obligation imposed, but the chances are he will readily forego it if called on for active service, more especially towards the end of his time.

Of course compulsion can be used, but it is precisely at times of popular excitement that you least want to resort to compulsory measures. You must offer terms that will make it worth a man's while to come forward of his own accord. If you offer a pension on completion of reserve service, the man will probably argue to himself: "I have served all these years for a pension; if I do not go, I shall lose it, and all my service will go for nothing."

In short, pay men for fulfilling their engagements and for work done, not for liability to service on the chance of their responding.

Class.	Pay when embodied or out for training.	Pay at other times.	Pension after 25 years.
(a) Short service men.	Full pay of rank ...	Nil	Rs. Non-Commissioned Officers ... 5 Sepoys ... 3
(b) Long service men, compulsorily transferred.	Ditto	Same as pension rates, <i>viz.</i> — Non-Commissioned Officers ... 7 Sepoys ... 4	Rs. Non-Commissioned Officers ... 7 Sepoys ... 4

Lieutenant-Colonel P. Harris, Commanding 11th N. I.

Lieutenant-Colonel L. H. Williams, 12th S.M.L.

Fide answer 16.

I should recommend that the sepoy serve for five years with his regiment, during which time he would be thoroughly trained in all his

duties, and become acquainted with the discipline and regulations of the service; he should then serve for 15 years in the reserves for pension (see answer to question 19c); 2nd paragraph, see answer to question 19f.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Should a reserve be formed, I would give men the choice of joining it after 15 years' service, subject to the approval of Government. It would then soon become apparent whether the movement was popular or not.

A man might serve 10 years in the reserve and be given two-thirds the pension of a man who had served steadily with the colors. I would give the reserve men half the pay they were earning in the ranks.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

I would let every well-conducted soldier claim the pension of his rank, as a right, after fifteen years' service, on the condition that he engaged to serve in the 2nd reserve as long as considered fit for garrison duty in India.

While in the reserve, I think every man should receive Rs. 2 per mensem in addition to the pension of his rank, and when called on to serve, the full pay, &c., of his rank in lieu of all other claims for the time.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

I would not let any man go to the reserve until he had completed six years' service, nor after he had completed twelve years; and would not give a pension until he had completed twenty-five years from date of enlistment.

It appears to me that there are two evils to be avoided: one, encouraging men to go into the reserve after too short a period with the colors; the other, that the rate of pay for the reserve should be brought into competition with the rates of pension. I think Rs. 2 per month should be the pay for the reserve when not required for training; when training, Rs. 7 per mensem, the good-conduct pay the man drew when he left the colors.

Lieutenant-Colonel J. Hudson, Commanding 29th Punjab Native Infantry.

If we start with the fact that it takes about two years to make an efficient soldier,—and I do not think it can be done in less; for although a recruit may be passed into the ranks in from six to twelve months, yet he has much to learn after that,—then I think we should retain his services with the colors for six years, or, say, enlist a man for eight years with the colors.

After that he might, if still fit for active service, be passed into the reserve; and I am inclined to think the reserve should be divided into two classes; for men of the 1st class reserve I would fix the pay at Rs. 2-8 to Rs. 3 per mensem.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

After 14 years with the colors, I would pass a sepoy into the reserve, not a non-commissioned officer. He should be recommended by his commanding officer as of good character and deserving of the privilege; otherwise, I would have him discharged. He should serve in the reserve for a further period of 9 years, and then be liable to discharge with a gratuity, if declared by a Medical Board physically unfit for garrison service. If fit, he should then pass into the second reserve for another five years, liable to be called out on cantonments becoming vacant through regiments proceeding on active service.

In the first reserve I would give pay at Rs. 3-8 per mensem; in the second at Rs. 2-8, with full pay of rank when embodied for training of service.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

At least 12 years' service before being passed to the reserve, and the same period in the reserve before entitled to claim pension.

Two rupees a month; Rs. 7 a month while called out for training. Same pay as regular army while employed on active service.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

After about eight years' service, and he should serve at least twelve years in the reserve before being able to claim pension. The pay in the reserve should be two rupees per mensem.

Major R. A. Wauchope, 14th Sikhs.

I would enlist a man as now for three years, after which he might enter the reserve—remain with the colors, or cut his name as he pleased—so long as there was a vacancy for him in the reserve of his regiment. He would be entitled to a pension after twenty years, irrespective of the time he has served with the colors or with the reserve.

The pay while in the reserve to be Rs. 2 per mensem.

Major A. C. W. Crooksbank, 32nd Pioneers.

Presuming that the reserve is limited and voluntary, I would say—

(a) Five years' service with the colors: it takes that time to make a man understand the value of discipline and training.

(b) Two years in the reserve for one with the colors. A Native soldier should be allowed to claim a pension after 21 years' service. A

reservist would then have to serve for 5+32 (21—5×2), or 37 years for a pension; he would then be about 55, an age at which he should seek the shade of his village fig tree.

(c) Rs. 2 or Rs. 2-8 a month.

Captain H. D. Hutchinson, 40th Native Infantry.

After 17 years' service (with some exceptions: see answer 20). He should serve in the 1st reserve for five years, and in the 2nd reserve for five years. His pay while in the reserve should be the rate of pension as at present fixed, *viz.*, Rs. 4 a month for a sepoy, and Rs. 7 for a non-commissioned officer, and in addition, for the month in each year in which he comes in for training, he should get his full pay, including good conduct pay.

NOTE.—If before five years' service a soldier becomes unfit for active service, he should be discharged forthwith and get nothing. Between five and eleven years' service, he should have three months' pay as a gratuity on discharge; above 11 years, if pronounced unfit for service in the reserve, six months' pay. This rule is very necessary to prevent malingering. After 17 years' service, that is, when he will be about 36 years old, he should go to the 1st reserve for five years, getting Rs. 4 a month (for a non-commissioned officer, Rs. 7) for 11 months, and his old full pay for the 12th, the month he is up for his training. If he fail to come in without producing a medical certificate from an European officer, strike him off the rolls at once. If he produce a medical certificate more than once, transfer him forthwith to the pension establishment on a reduced pension, *viz.*, for a sepoy Rs. 3 a month, for a non-commissioned officer Rs. 6. These rules must be made to guard against malingering. Under this system, the 1st reserve would consist of men between 36 and 41 years of age. They should be liable to be called out for active service.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

I believe that the very natural zeal of regimental officers to have their regiments smart and efficient forces many men to the pension list whose services might be utilized to the State in the reserve, and the pension list thereby much reduced.

I consider therefore that men should be passed into the reserve, independently of their length of service and in lieu of being immediately pensioned, when recommended by the officer commanding, and after examination by, and with the sanction of, the annual committee.

The reserve would thus be composed of—

- (a) men presenting themselves for pension, but in opinion of committee still fit for further service, though not up to regimental mark;
- (b) men physically fit and remaining unpromoted for want of intelligence, &c., or who, unfit to remain with colors, are considered up to garrison duty;
- (c) men who, for family or other reasons, wish to go to reserve;
- (d) pension to be claimable by men in reserve on their combined active and reserve service;
- (e) maximum pension for reserve men after 32 years' service (should any individual be retained so long) to be a special pension and equal to the ordinary pension now given for men of 32 years' service with the colors, irrespective of the periods composing, such service being mainly in the reserve;
- (f) ordinary pension for reserve men to be calculated at the rate of two years in reserve counting as one with colors; pension claimable after 15 years' combined service at this rate to be the one now given;
- (g) pension for men between 15 and 32 years' service to be the one claimable after 15 years, together with a gratuity for each year in excess of 15;
- (h) pay of reserve men to be Rs. 5 to 2, according to class: during annual training reserve men to receive full line rates of pay.

Major A. Battye, 2nd Goorkhas.

Should serve 8 years with his regiment before passing into the reserve, and 24 years in the reserve before he could claim a pension of Rs. 3 a month. Should re-engage every 4 years if physically fit. After 12 years in first reserve and 6 years in second reserve, if physically unfit for even garrison duty, should be pensioned on Rs. 2 a month.

Pay in the reserve should be as recommended by Captain H. S. Anderson in his paper alluded to in answer 16, page 11, *viz.*, at the rate of Rs. 2 a month. Rs. 6 to be paid on assembly for training, Rs. 6 on 1st day of 2nd month, and the balance of Rs. 12 on dismissal. An additional half mounting allowance of Rs. 2 annually should be given to each man who presented himself with his uniform in good order. An additional Rs. 2 a month during training of two months: total Rs. 30.

Vide answer 17.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Sepoys after twenty years' service; and they should be called on to serve in the reserve for five years before claiming pension; the pay should be Rs. 2 a month.

Colonel H. Bohrazen, Commandant 4th Sikhs.

Twelve years' service before passing into the "reserve," in which he should serve eight years before being entitled to any pension.

Half the pay in the "reserve" of what he would get in the 1st or fighting line.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

I would put men of fifteen years' service and upwards into the two depôt companies with a proper complement of Native officers and non-commissioned officers. I would then give the depôt companies two years' furlough, at the end of which they should come up to their regiments for two months' training. If any of them then seemed to be past their work, they should be pensioned and struck off the reserve. The men who were fit for service should again have two years' furlough with two months' training at the end. In this way, when a man had got ten years' service in the reserve, that is, when he had got twenty-five years' service altogether, I would pension him on the full pay of the reserve, which should be for a sepoy six rupees a month. Promotion should be made in a regiment either from the service companies or from the reserve, according to the discretion of the commanding officer; the Native officers and non-commissioned officers of the reserve should receive two-thirds of their present pay, except when called up for training or for active service, when all ranks should receive full pay and good-conduct pay. When the reserve was called up for active service, the men, i.e., privates, should take their places in the companies of the battalion from which they came; the Native officers and non-commissioned officers of the reserve should remain with the depôt and assist in training recruits.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Compulsory after ten years' service, optional before that. He should serve five years in the reserve before first pension, which should be a graduated one up to twenty-one years' service.

		Rs.	A.	P.
After 15 years' service	1	0
16	"	...	1	8
17	"	...	2	0
18	"	...	2	8
19	"	...	3	0
20	"	...	3	8
21	"	...	4	0

While in the reserve, pay at rate of Rs. 2 per mensem for eleven months, and full pay for one month when under training.

vide answer 16.

Lieut.-Col. B. R. Chambers, Commanding 6th Punjab Infy.

Major A. G. Ross, Commanding 1st Sikh Infantry.

I would pass him in after 12 years' service. But even then I would give commanding officers power to make exceptions, and keep on useful men willing to stay. I would raise compulsory service from 3 to 5 years, and after 5 years, any man wishing to go, I would pass into the reserve, which would thus consist of—

(a) "men leaving the colors voluntarily after 5 and before 12 years' service;"

(b) "men passed in after 12 years' service with colors."

For reserve pay, see answer 19.

Col A. Jenkins, Comdt. 2nd M. N. I.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

Col. G. Hearn, Comdg. 15th M. N. I.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

I do not think the reserve system applicable to the Native army.

Having stated in answer to No. 16 that I do not consider the reserve system applicable to the Native army, I leave this question and the following questions, as far as No. 25 inclusive, unanswered.

vide answer 17.

After five years' service, and after twenty years' service in the reserve, he should be entitled to claim pension.

Twelve years in the ranks, and be liable to be called upon for ten years more.

Pay whilst in the reserve Rs. 3 a month. Pension at the end of 22 years Rs. 4-8.

Lieutenant Colonel F. H. Tyrrell, 37th Madras Infantry.

After 5 years' service I would allow a soldier to pass into the first reserve, after seven years' service in that I would transfer him to the second reserve, and keep him in it as long as he was fit for garrison duty: keeping up a pension list like our present one, along with a reserve, would be a ruinous expense.

I consider it would be necessary to pay a man in the reserve three or perhaps four rupees per mensem. The pay should be issued when the man presents himself for training.

Lieutenant-Colonel P. A. Carney, 39th Madras Native Infantry.

After fifteen years' service, and he should serve another fifteen in the reserve before being able to claim pension.

My idea of a reserve in India for Native troops is not that the men should be dismissed to civil employ, and then called up for a few days'

training annually. I think they should form a second battalion, and should do garrison duty chiefly, and perhaps police work at fixed headquarters, but should remain embodied on smaller pay. For work of that kind they should receive Rs. 6 or 7 a month, no good conduct pay, and compensation for dearth of provisions at a lesser rate than men on active service. Many privates are now transferred to the pension establishment on Rs. 4 per mensem, who would do garrison duty and light work for many years longer, though unfit physically for active service. The State now gets nothing from these men, though it might do so.

Major E. Fancee, Commanding
14th Madras Native Infantry.

Pensioners quite sufficiently able-bodied for garrison duties cumber the pension list in large numbers. It is wonderful how decrepit, sickly, and useless men become as they get near the time at which they mean to leave the ranks, and how rapidly they pick up afterwards. Every regimental officer can vouch for this. Any well-considered measure for the reduction of the enormous pension list must commend itself to the Government. Cannot one be devised by which these pensioners should form a reserve? The period of service, 15 years, after which a pension is obtainable might well be raised to 21 years for men hereafter enlisted; but to reduce the pension would not do. Any such interference with the pecuniary interests of the Native army would be politically dangerous, though such danger might not be apparent at once. Unquestionably, it would only lie dormant till some favorable opportunity arose. In Madras till about 18 years ago there were "invalid battalions" permanently embodied, and Medical Boards were required to state whether men appearing before them were "unfit for any further service," "fit for garrison duty," or "fit for further service." In the first case they were pensioned; in the second they were transferred to one of the "invalid battalions" which had no fixed strength. There would be little practical difference if pensioners were made liable to be called out in case of any local disturbances, or for garrison duty in case of war. Annual Invaliding Boards might be required to state whether men whom they pronounce unfit for further active service are fit for garrison duty. Men that are so should be medically examined every two or three years, and be liable to be called out till pronounced medically unfit, or till they have completed 32 years from date of enlistment. They should receive the present ordinary rate of pension, except when embodied for annual training or for garrison duty, when they should receive full pay, rice, money, good conduct pay, &c., according to length of service, including that as pensioners, free quarters, which would be simply tents when embodied for training, the vacated lines of the regiment they replace when embodied for garrison duty in war. In the northern districts of Madras, in the immediate vicinity of where the Rumpu "rebellion" is still in progress, there are very large numbers of pensioners. A thousand fit to cope with such rebels might easily have been found if required; and if embodied at once on the first outbreak, not only would a large expenditure in moving troops have been saved, but what is of much higher importance in this country should have been saved, the injury it must cause the prestige of the British Government in the fact—freely commented on in every bazar—of a contemptible body of malecontents settling the Government of an Empire at defiance for weeks lengthening into months. No special organization or expense, of any kind would, I think I could show, be required to carry out my suggestion, but details would render my reply too diffuse.

Brigadier-General H. F.
Brooke, Adjutant-General, Bom-
bay Army.

Brigadier-General A. B. Little,
Commandant 25th Bombay
Native (Light) Infantry.

Colonel S. Edwards, Com-
manding 2nd (Prince of Wales'
Own) Grenadier Regiment, Bom-
bay Native Infantry.

* After 15 years' service, and he should continue serving in it until he had completed the time now required for pension, i.e., 32 years' service from date of enlistment.

(a) After 25 years' service I would pass a man into the reserve, and I think he should be kept there for five years before he could claim pension.

(b) His present rate of pay.

All men on the completion of 15 years' service should be carefully examined, and if fit and willing to serve they should be allowed to remain with the colors from year to year till they have served 20 years, when a transfer to the reserve should be compulsory, except in the case of Native officers, who should be allowed to serve—jmadars to 24 years and subadars to 28 years—if considered fit.

For pensions see clause (d), and for pay see clause (b), of answer 19.

I leave questions 18 to 25 unanswered, as they refer to a reserve which I do not think applicable to the Native army.

* I reply to this and the seven following questions on the understanding that the formation of a reserve is considered necessary, notwithstanding the objections which will no doubt be urged against it by many officers.

Colonel G. W. Hanson, Com-
manding 9th Regiment, Bombay
Native Infantry.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

I would allow every man of good character, *who so wished*, to join the reserve after 12 years' service, or later; he should serve two years for every one as a reservist to entitle to pension.

First pension to be after 17 instead of 15 years, as at present.

Men who are every way fit, wishing to stay in reserve longer, could do so if required.

One-quarter of what the soldier was receiving when he left the regiment.

Colonel R. Mallaby, Commandant
13th Bombay Native Infantry.

In my opinion it is better to use a man up with the colors; but if a reserve is determined on, and it is necessary to have men in it, who have some stamina left, I would say 18 years with the colors and 7 years with the reserve.

The present date of pension.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Twelve years, and in the reserve 16 years. Rs. 2 per mensem should be the pay, with full pay for the days of training.

Col. A. Carnegie, 21st Bo. N. I.

Vide answer 17.

Colonel J. Fairbrother, Commanding
22nd Bombay Native Infantry.

I am entirely opposed to the adoption of the reserve system for many reasons: first, I do not believe in short service as a good thing for the army; therefore, I am not in a position to answer this and the two following questions, 19 and 20, without, perhaps, prejudice.

Lieutenant-Colonel O. V. Tanner, 29th Bombay Native Infantry.

After 15 years' service, and after 10 years more in the reserve he should be allowed to claim a pension, Rs. 5 per mensem.

19. (a) Do you think it would be an advantage to divide the reserve into two classes,—the first liable to be called out for active service, and the second for garrison service only, the first passing into the second?

(b) If you consider that the reserve should be divided into classes, what should be the pay of each class?

(c) How long should a man serve in the first reserve, and how long in the second reserve?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

(a) Yes; I consider a division into two classes might be made to work advantageously.

(b) I am not prepared to answer this.

(c) About five years in the first reserve, and from two to three years in the second reserve.

Colonel H. S. Obbard, Commandant
41st Bengal Native Infantry.

(a) I think it would be an advantage to divide the reserve into two classes, the first to be liable for active service, and the second for garrison service only. But I would keep them distinct, and not pass the first class into the second, unless from having been called up they passed in ordinary course from the first to the second. When a first class reserve man is called up, all his service should be allowed to count; and when the necessity for his service terminates, he should, if eligible, be allowed to pass into first reserve again for three years, receiving gratuity for three years, and as many as he may have been serving since called up.

(b) First reserve no pay but gratuity.

Second reserve, ordinary invalid pay while fit for garrison duty, and afterwards one-fourth less: see reply to question 18.

(c) First reserve three years, second reserve till no longer fit for garrison duties.

Colonel T. Bojsragon, Commanding
30th Punjab N. I.

Vide answer 18.

Colonel E. Dandridge, Commanding
40th Native Infantry.

I do not think a reserve man would be fit for active service. I would have therefore but one class, and that for garrison duty.

Colonel G. W. Fraser, Commandant
39th Native Infantry.

No; the simpler the system of reserves adopted the better. There should be only one class. In the event of war, the younger and more active men would naturally be selected to be sent to the front, the older and less fitted being kept for garrison duty.

(a) Yes; as there are numbers of men fit for garrison service, but unfit for the hard work of a campaign.

(b) As regards pay, I would make no difference as to whether a man was in the first class or second class. They will have all been subject to the same liabilities. But I would pay them according as they were "short service men" or "long service men" (*vide answer 18*).

(c) After 20 years' total service to pass into the second reserve.

Lieutenant-Colonel H. Worsley,
7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris,
Commanding 11th N. I.

Vide answer 16.

Lieutenant-Colonel L. H. Williams,
Commanding 14th Sikhs.

(a) Yes, I think it would be a great advantage.

(b) The two classes receiving the same pay, namely, Rs. 2 per mensem while unemployed—pay and good conduct pay of a sepoy while employed for the annual training, or service. No increase of good conduct pay to be given after joining the reserve.

(c) After five years' service in the regiment I would suggest that those sepoys to be passed into the reserve should be medically examined; those deemed unfit should be discharged with a gratuity of three months' pay; those passed as fit should enter the 1st reserve in which they would be liable to be called out for active service. After ten years' service in the 1st reserve, they should again be medically examined; those found unfit should be either discharged with a gratuity of six months' pay, or the reserve pay of Rs. 2 per mensem as pension; those for whom there are no vacancies in the second reserve might be treated in a like manner, the remainder deemed fit for service and for whom vacancies exist should be passed in the second reserve, in which they should serve a further term of five years, being liable to be called out for garrison duty at the depot of their regiment and in the province in which the regiment is localized. Having thus completed 20 years' service, a pension of Rs. 4 should be granted, and the sepoy discharged, whether fit or not for further service.

Lieutenant-Colonel R. J. Walker,
17th Native Infantry.

(a), (b) & (c) No, I would only have one class in the reserve. All pensioners could be warned that they would be liable to be called out for garrison duty in time of great emergency.

Lieutenant-Colonel R. G. Rogers,
Commanding 20th Punjab Native Infantry.

(a) By the system suggested in answer 16 there would necessarily be two classes, the second battalion for active service, and the pensioners for garrison duties; the first of course passing into the second.

(b) First class pay and batta of rank.

Second class pension of rank and Rs. 2 per mensem with full pay and batta of rank during any time employed on garrison duties.

(c) In first class for 15 years at least.

In second class for as long as fit for garrison duties.

Lieutenant-Colonel F. B. Newman,
Commanding 21st Punjab Native Infantry.

(a) If men came forward in sufficient numbers, it would be advisable to divide the reserve into classes as proposed.

(b) I don't think that there should be a difference in the pay; Government servants expect that their pay should increase with length of service, and it would make the reserve unpopular if the older men who would form the second class got less than the younger men of the first.

(c) I would place all men over 20 years' service in the second reserve; after 25 years the men of this reserve should be allowed to claim pension.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native Infantry.

(a) I do certainly think it would be more advantageous to divide the reserve into two classes. I would allow men to serve six years in the first reserve, and after that, if still fit for garrison duty, they should pass to the second, in which they might remain till they attained the age of 45 or even 50 years.

The men of the first reserve should be liable to be called on to join their colors whenever Government deemed it necessary. These would bring the battalions up to war strength. These men should be called out for training annually.

(b) I think Rs. 3-8 to Rs. 4 per mensem should suffice for the men of the first reserve, and Rs. 2-8 to Rs. 3 per mensem for men of the second reserve. When called out for annual training, the men of the first reserve should receive full pay and passage by rail to and from their homes.

(c) I would fix these periods at first reserve six years, second reserve up to 45 or 50 years of age.

Lieutenant-Colonel G. C. Howcroft,
35th Native Infantry.

(a) Yes, as stated before.

(b) { 1st class Rs. 3-8 p. m.
 { 2nd „ „ 2-8 „

(c) Nine years in the first, and five years in the second.

Lieutenant-Colonel F. M. Armstrong,
Commanding 15th (Lat. tray's Sikhs) Native Infantry.

(a) Too complicated, I think. The rules regulating the reserve should be as simple as possible. All men while in the reserve should be liable for active service. If the reserve was formed by districts, so many regiments to each, one or more districts could be called out at a time, as might be necessary, and the classes best suited for the occasion. Of these, so many of the most fitted could at once be sent to join regiments at the front (their old regiments as far as possible), bringing them up to fighting strength; the rest kept for garrison or escort service.

(b) The pay of both to be, while thus employed, at the same rate as they received when leaving their regiments to join the reserve, those actively employed at the front receiving in addition any advantages of "free ration," "warm clothing," &c., enjoyed by the rest.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

I do think so. After a certain term of service they should pass from the first class into the second. The first class would form the active reserve; the second class would be composed of older men qualifying for pension, and even of pensioners, and would only be liable to be called out for garrison duty.

(a) The pay of each class should be the same, *viz.*, two rupees a month.

(b) He should serve in the first reserve about ten years, in the second until he obtains his pension, and even afterwards, and, whether a pensioner or not, would be liable to be called out for garrison duty.

Major R. A. Wauchope, 14th Sikhe.

(a) I think if a man be called away from his home, he would as soon or sooner go on active as on garrison service.

Major A. C. W. Crookshank, 32nd Pioneers.

(a) On the understanding above mentioned, I would say no; it is too complicated an idea for the Native mind to grasp. I think the pensioners may be looked to as the garrison reserve or "Landsturm," if such is needed. Reserve men should be carefully inspected at their annual training, and be discharged when found unfit either with gratuity, or *pro rata*, or deferred pension, thus passing them into the pensioner class; this latter class might also be annually inspected and divided into the two classes of men who possibly may be useful for garrison service and men of no use. I hardly see a necessity for any further division.

(b) They should only be in one class.

(c) In the reserve list, until he is entitled to pension by length of service, or is unfit to join the army in case of war. There would then be three classes, *viz.*—

I.—Active army of all men with the colors.

II.—Reserve list of all men fit to rejoin the colors for war.

III.—Pension list divided into (a) men who are fit to do garrison duty; (b) men who are past that work, and on whom the country has no claim.

Captain H. D. Hutchinson, 40th Native Infantry.

(a) Yes, I would advocate two such classes. At this moment if the formation of such a reserve were ordered, the men to be transferred to it would have to be picked, some to go into the first reserve, some straight into the second; but *afterwards* the regular course would be through the first reserve into the second. I would make no exception to this rule. If a man is not fit for transfer to the first reserve, let him be discharged with gratuity.

(b) It should be the same (sepoys Rs. 4, non-commissioned officers Rs. 7, a month), and the same continued to them when transferred permanently to the pension establishment.

NOTE.—Pensioners now get Rs. 4 and Rs. 7 a month after 15 years' service, and do nothing for it, and the pension list is consequently an enormous one. It would be ample to give men in the first reserve these rates of pay. They have little to do during December or January, when they would be called in for their annual training, and they would get a full month's pay for coming in. After five years in the first reserve they go to the second, and are now no longer liable to active service; but they have now served at least 22 years; so I could give them the same as before, and after another five years, that is 27 altogether (17 with the colors, 5 in first reserve, and 5 in the second reserve), continue the same rate to them as pension.

(c) Five years in each.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

(a) Yes, I would divide the reserve into classes; the men to be examined annually during training time and classified accordingly.

(b) While not called out, I would give the 1st class Rs. 5 and 4 per mensem, according to efficiency; the 2nd class Rs. 3 and 2. I consider that with Goorkhas a grant or allotment of land at any convenient place in the hills would make the reserve extremely popular. When reserve men are undergoing annual training or embodied with the sedentary battalion, they would receive full line rates of pay.

(c) The classification would be rectified annually, and the maximum limit of service would be 32 years (combined active and reserve).

Major A. Battye, 2nd Goorkhas.

(a) Certainly, a very good plan.

(b) There should be no difference, provided the 2nd class man had completed his service of 12 years in the 1st class. If permitted to join 2nd class before completing the full period in the 1st class, should get pay at the rate of Rs. 1-8 a month; also the annual half mounting allowance of Rs. 2, and an additional Rs. 2 during training of one month: total Rs. 22. The total pay and uniform allowance of the 2nd class man who had completed 12 years in the 1st class would be Rs. 23, his training lasting only one month.

(c) Twelve years in each.

Major F. F. Rowcroft, 4th
Goorkhas.

Colonel R. Blair, 3rd N. I.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

Lieutenant-Colonel F. H.
Jenkins, Commanding Corps of
Guides.

Lieutenant-Colonel J. J.
Boswell, Commanding 2nd Sikh
Infantry.

Lieutenant-Colonel B. R.
Chambers, 8th Punjab Infantry.

Major A. G. Ross, Command-
ing 1st Sikh Infantry.

Colonel A. Jenkins, Command-
ant 2nd Madras Native Infantry.

Col. G. Hearn, Comdg. 15th
M. N. I.

Colonel L. W. Back, Command-
ant 20th Madras Native Infan-
try.

Colonel W. A. Gib, Commandant
25th Madras Native Infantry.

Lieutenant-Colonel F. H. Tyr-
rell, 37th Madras Infantry.

Lieutenant Colonel P. A.
Curney, 39th Madras Native
Infantry.

Major E. Pearce, Commanding
1st Madras Native Infantry.

Vide answer 17.

Certainly not; it would cause confusion.

(a) I have already answered this in my reply to question No. 5, giving my views on this point—the first line for active service, the 2nd to feed the 1st and for garrison duties generally.

(b) According to my suggestion, *vide* reply to No. 5, 1st line full pay, as at present; 2nd line full pay, as indicated in answer to question 18; 3rd line would have their pension, plus one rupee extra per mensem, whilst employed on any duty.

(c) Answered in reply to question 18, and to be pensioned after 20 years' service.

I would only have one reserve; but I think it would be good to enroll pensioners for garrison service in time of war.

(a) Yes, active and garrison.

(b) Two rupees per mensem to both active and garrison for eleven months, and full pay during a month's training.

(c) Six years in the first and five years in the second.

Vide answer 16.

(a) It would be an advantage, and I would use 1st class for active service, and 2nd for garrison duty only (save in great straits), and I would pass 1st into 2nd class.

(b) 1st class Rs. 3 per mensem.

2nd class Rs. 2 per mensem.

Both classes full pay of *service done with colors* when called out for duty service or drill.

(c) A man should serve in 1st reserve until the aggregate of his color and reserve service be 15 years, *e.g.*, a man serving 12 years with colors would serve 3 years in 1st reserve.

In 2nd reserve a man should serve 9 years, *i.e.*, until his color and reserve service aggregates 24 years.

(a) I can see no advantage in the reserve system.

(b) Ditto.

(c) Ditto.

Vide answer 17.

Two rupees per mensem.

(a) No, I do not think it would be advisable to have two classes.

(a) If a reserve is raised, I would keep it to one class and make it as little complicated as possible.

(b) I do not think there should be two classes.

(c) I have already said I think there should be only one class of reserve.

(a) Yes, the first class or ban of the reserve should be composed of men on permanent furlough from the army, who by rejoining their bat- talions would bring them at once up to their full war strength; the second class or ban should form reserve battalions and be available for garrison duty only.

(b) It is the custom in our Indian army to increase the pay for length of service, and I do not think any reduction could be made in the pay of the second class reserve. The rates of pay given to the second class reserve when called out under arms might be made lower than those given to the army.

The large reserves of the Continental armies are kept up at a trifling expense to the State, as the men are forced to serve and receive no pay except when embodied.

(c) 7 years in the first reserve (on permanent furlough from his regiment of the army) and as long as he can in the second or garrison reserve. Nothing would be gained by pensioning him, unless the present pension rates were much reduced.

(a) Yes, if the first class could be kept embodied.

(b) The First class Rs. 6
Second class " 5

(c) Ten years in first.
Five years in second.

No, the Native troops I am acquainted with would be of no more practical use for field service than recruits after they had been any time

out of the ranks. Those who have not actually served in a Native regiment can have no idea of the constant labor, the unremitting attention on the part of the few European officers that a good Native regiment represents. Another objection to reserves.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

(a) A sepoy should remain in the first class reserve for ten years after joining it, that is, until he has completed 25 years' service, and should then pass into the second class, where he should remain until he finishes his time.

(b) On first joining the reserve the pay should be Rs. 3 per mensem for sepoys: this should be raised to Rs. 4 in the second class reserve, and the final pension should be Rs. 5, the superior rates being abolished, except for men who had served the whole 32 years with the colors.

Brigadier-General A. B. Little,
Commandant 25th Bombay
Native (Light) Infantry.

If it were considered desirable to form a reserve, I would not recommend its being divided into classes.

The men of the reserve might be quite equal to jail and treasury guards, or, even at a stretch, garrison duty, but I do not think that, with the small amount of drill which they would be likely to have, they would be fit to fall in with a regular regiment, and I think it would be found that their musketry would have fallen off to such an extent as to utterly unfit them for active service.

Colonel S. Edwardes, Commanding
2nd (Prince of Wales' Own)
Grenadier Regiment, Bombay
Native Infantry.

Yes, the reserve should be in two classes, the 1st class consisting of those who, having served upwards of 15 years in the regular army, have elected for, or been transferred to, local battalions; the 2nd class to consist of those who elect to pass at once from the regular army into the 2nd reserve on a lower rate of pay; and also those who have passed through the 1st reserve.

The 2nd reserve would be available in time of war, &c., to take the place of these local battalions which are sent on service, as the second line of the army, to garrison forts and keep open the line of communication.

The pay of the 1st class reserve should be that of local battalions at present existing.

The pay of the 2nd class Rs. 5 per mensem for those who have served their time in the 1st class, and Rs. 4 for those who have gone straight from the regular army into the 2nd class.

A man should not serve more than an aggregate of 25 years in the regular army and 1st reserve and 7 years in the 2nd, or 32 years in all.

The system of pension to be as follows:—

If unfit after 15 years' service, Rs. 4 per mensem. If unfit after 7 years in the 1st reserve, or after 24 years' aggregate service in the regular army and 1st reserve, Rs. 5 per mensem. After 32 years' service, 7 of them in the first reserve, Rs. 7 per mensem.

For non-commissioned officers, pensions respectively of Rs. 7, Rs. 9, and Rs. 12; and for Native officers—

			Rs.	Rs.	Rs.
Jemadars	...	...	12	18	25
Subadars	...	...	24	35	50

Pensions claimable:—

1st pension after 20 years in the regular army and 1st reserve, or after 25 years in all.

2nd pension after 25 years' service in regular army and 1st reserve, or after 32 years in all.

3rd or full pension after 32 years' service, having qualified for the 2nd pension.

The reserve should be liable for garrison service only.

Colonel W. Bannerman, 4th
Bombay Rifles.

(a) No, I would select the men best fitted for active service from the whole when required.

(b) I do not so consider.

No, I see no advantage. I would on the outbreak of a war embody the whole reserve or that of certain districts; I would then have them examined by a board, with a medical officer in attendance, and would select those fit for active service, and those fit for garrison duty and return to their home, those fit for neither.

(b) } I don't consider two classes

(c) } in the reserve feasible.

(a) Yes, I would divide the reserve into two classes.

(b) I should pay the same to both classes, but would pay the men half-yearly in arrears, so that, if any did not respond when called on, they would forfeit the balance due to them, in addition to any other punishment which would be awarded.

(c) 1st reserve 6 years.

2nd „ 10 „

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Col. A. Carnegie, 21st Bo. N. I.

Vide answer 17.

Colonel J. Fairbrother, Commanding 22nd Bombay N. I.

Vide answer 18.

Lieutenant-Colonel O. V. Tanner, Commanding 20th Bombay Native Infantry.

(a) I think it would. Many would gladly serve in garrisons, and be useful to keep up communications, who would not feel themselves up to more active service.

(b) First Rs. 5, second Rs. 3.

(c) Of the 10 years in the reserve, 5 might be in the first and 5 in the second, or according to their fitness.

20. What percentage, if any, would you propose to retain for long service with the colors, and what should be the limit to that service?

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I would allow all who wish it to remain with the colors so long as they are really efficient. Up to twenty years for non-commissioned officers and soldiers, and twenty-five for Native officers.

It would be a very great mistake to train the whole country to the use of firearms. A man once instructed should never be lost sight of again.

Colonel T. Boisragon, Commanding 30th Punjab N. I.

Vide answer 18.

Colonel E. Dandridge, Commanding 40th Native Infantry.

I would enlist all for 25 years' service when retirement should (excepting in the case of Native officers) be compulsory.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Provided service with the colors, before being passed into the reserve, were fixed at twelve years' duration, there would be no occasion for retaining men for long service. All men after twelve years' service should be compulsorily passed into the reserve, excepting in the case of non-commissioned officers (including lance-naiaks) who should be encouraged to elect to serve the full period of twenty-five years.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

I would lay down no percentage until experience had proved it absolutely necessary to do so.

I would allow all short-service men to enter the reserve (first class). I would transfer men compulsorily to the first class reserve after 15 years' service (*vide* 18), but authorizing commanding officers to retain such men as they may think desirable, subject to the following limits:—

Native officers to be pensioned at	...	30
Non-commissioned officers to be pensioned at	...	25
Sepoys transferred to second reserve at...	...	20

Every regiment, such as that described in answer 5, should have a reserve of 1,000 men; the limits of compulsory transfer might be regulated by that condition.

Lieutenant-Colonel P. Harris, Commanding 11th N. I.

Vide answer 18.

Lieutenant-Colonel L. H. Williams, Commanding 14th Sikhs.

Twenty-five per cent. Those men most likely to turn out good Native officers and non-commissioned officers might be retained on the active list for a second period of five years. Should they not have been promoted at the end of that period, they should be passed into the first reserve, the service in that class of the reserve being reduced to five years, after which they might be passed into the second reserve to complete their 20 years' service for pension.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

I would not retain less than two-thirds of the men for long service with the colors, and I would limit their service to 30 years.

Lieut.-Col. R. G. Rogers, Commanding 20th Punjab N. I.

All for 15 years, unless previously declared unfit for active service.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

I would limit the number to *leave* the colors every year to join the reserve to 5 per cent. Our small regiments would not retain their efficiency if subject to a greater drain than the above. The limit of service of those who remained with the colors should be as at present.

Lieutenant-Colonel J. Hudson, Commanding 25th Punjab Native Infantry.

The one great difficulty attending the establishment of a short-service system with reserves is that of retaining the services of efficient non-commissioned officers with the colors. It is the great difficulty which has been experienced in the British army. For whatever may be the importance of having good non-commissioned officers now, it will be increased tenfold when we change to a short-service system.

The non-commissioned officers of a battalion are, in my opinion, the most valuable section in it.

To them is entrusted the execution of all details of training and duty, and their frequent employment on detached duties places them in situations calling for the exercise of judgment and discretion.

Considering, then, the necessity for securing a good stamp of men in the non-commissioned grades, and of encouraging the best men in a regiment to qualify themselves for advancement thereto, it was a matter of surprise to many officers in the army (Indian) that when, on a recent occasion, the pay of other ranks was raised, no increase was made to that of the non-commissioned officers.

In future, however, I think it will be found necessary to make the pay and position of non-commissioned officers such as will induce really good men to make the army a profession, in which it will be worth their while to pass the best years of their lives. I would propose therefore the following rates of pay for non-commissioned officers:—

Havildars	...	{	1st class @ Rs. 18
		{	2nd " @ " 16
Naiks	...	{	1st " @ " 14
		{	2nd " @ " 12

per mensem.

The first class of each grade should consist of 16 men, and the second class of 24.

With special reference to this question, I would suggest that only such men as become non-commissioned officers during their eight years' service with the colors should be allowed to prolong their service.

I would recommend they should be allowed to serve continuously with the colors while efficient and fit for active service up to the age of 15 years, after which they should, if not promoted, be discharged with pension.

Fifty per cent. The limit 20 years, except in special cases, supposing the reserve system *not* adopted.

All men enlisted should be liable to long service with the colors, limit 24 years, unless physically unfitted before that time and recommended for transfer to pension establishment.

So many men only per regiment to be passed yearly to the reserve as Government might require for the district reserve to which the regiment belongs: this number to be selected from men of good character of at least twelve years' service, wishing to leave the regiment for their homes on account of family reasons.

There would always be a certain number retained for long service with the colors: the percentage would depend upon the number of men who take their discharge and the number of men transferred to the reserve to fill vacancies in it. I would enlist recruits for eight years with the colors: at the end of that term they would either pass into the reserve, if vacancies exist, and they are willing to do so, re-engage for a further period, or take their discharge. I would make them re-engage for periods of three years, and would have no limit to re-engagement, provided the men were physically fit, and the commanding officer approved.

When the reserve for a regiment had reached its proper strength, it would be a waste of money to add to it, and to put a limit, unless it be a long one, to a good man's service with the colors would be a waste of soldiers.

No fixed percentage with the colors; but I would tie the reserve down to the strictest limits. From after 5 years' service to when a man is pensioned I would give him the option of joining the reserve when there was a vacancy. After 21 years' service, if a man took his pension, and was physically fit, I would, if too good for the garrison class of pensioners, bear his name for a time in the reserve list.

Ten per cent. up to 22 years' service, and 5 per cent. over 22 years' service for an indefinite period. An inspecting general should ask to see these men, and report upon their appearance, &c. These men should be exempt from service in the reserve.

All Goorkhas enlist for long service; the limit should be 32 years, and reserve men who had in time of war become embodied in the sedentary battalion might continue with it as long as fit; when no longer so, be pensioned under foregoing rules. It must be specially understood that the reserve system for Goorkhas would be a substitute to a great extent for the pension list. I hardly think young men would enter the reserve in great numbers.

Retain for long service with the colors all who wished to remain as at present. If a regiment does not fill up its reserve of 200 men from volunteers within a reasonable time, it will show that the system does

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Ratnay's Sikhs) Native Infantry.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Batty, 2nd Goorkhas.

not answer when further changes could be introduced. I would not limit service with the colors, otherwise than it is now limited, *viz.*, by physical fitness to serve. A man who had served 15 years with the colors, and had become unfit for further active service, and entitled by present rules to a pension of Rs. 4 a month, should be transferred to the second class reserve if fit for garrison duties, and get Rs. 5 a month instead of Rs. 4.

Vide answer 17.

I should only retain for long service with the colors Native commissioned and non-commissioned officers; limit to be 30 years.

The percentage to be retained would depend entirely on circumstances, (public service and personal), but limited to five years, by which time, say the average age of a recruit, when entertained, is 18 years (and he should not be enlisted before that), the soldier would then be about 43 years old, by which time a Native usually is passed work, or considers himself so, and as an unwilling agent had best be invalided, certainly by the time he is 45 years of age.

I would pass privates of 15 years into the reserve till it was completed up to 200 men. If the reserve did not fill quickly enough, I would send into it men of 14 and 13 years' service.

It would be difficult to lay down any percentage, as it is (at present) optional with men to claim their discharge after three years' service. I would suggest ten years be the limit for sepoys to serve with the colors, allowing commissioned and non-commissioned officers to remain under present rules.

Vide answer 16.

Privates (save special exceptions) I would pass into reserve after 12 years' service with colors.

Buglers I would pension, whether well or ill, after 25 years' service with colors at Rs. 4 per mensem. If their health broke, I would give pensions of Rs. 3 per mensem, from 15 to 20 years' service; and if health broke, Rs. 4 after 20 years' service.

Non-commissioned officers.—If health failed after 15 years' service, I would give pensions Rs. 4 per mensem. If in health, I would after 15 years, if they wished it, let them join second reserve, and in this case would give them Rs. 6 per mensem pension after an aggregate of 24 years' service.

If they remain with the colors I would, if their health broke, after 20 years, pension them on Rs. 7 per mensem. And after 25 I would let them go, well or ill, on Rs. 7 per mensem pension.

Native Officers.—Health breaking after 15 years—

Pension subadar	...	...	Rs. 12 per mensem.
" jemadar	...	...	" 8 "

after 24 years in all.

If they join second reserve after 20 years:—

Pension subadar	...	...	Rs. 20 per mensem.
" jemadar	...	...	" 10 "

If they stay on with colors—

(a) Health breaks between 20 and 23 years:—

Pension subadar	...	...	Rs. 18 per mensem.
" jemadar	...	...	" 9 "

(b) Health breaking between 23 and 25 years:—

Pension subadar	...	...	Rs. 20 per mensem.
" jemadar	...	...	" 10 "

As for re-entrant Native officers after 24 years.

(c) After 25 years with colors, I would let any Native officer retire, whether, well or ill, as he pleased.

Pension subadar	...	...	Rs. 25
" jemadar	...	...	" 12-8

I would not have any enhanced pensions for any one. I would give the subadar-major as now his Rs. 50 per mensem.

I can imagine nothing but baneful effects as likely to result from the application of the reserve system to the Native army.

Vide answer 17.

At least one-third of the men should be retained for long service which should extend to twenty-five years, and in the case of non-commissioned, twenty-eight years.

Fifty per cent., and the limit of that service 30 years.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab I.

Major A. G. Ross, Commanding 1st Sikh Infantry.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Col. G. Hearn, Comdg. 15th M. N. I.

Colonel L. W. Beck, Commandant 20th Madras Native Infantry.

Col. W. A. Gibb, Commandant 25th Madras N. I.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegy, 39th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 25th Bombay Native (Light) Infantry.

Colonel S. Edwardes, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

Col. G. W. Hanson, Commanding 9th Bombay N. I.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegy, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay N. I.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

If the reserve system worked well, I would keep no old soldiers with the colors. But at first, as our service is voluntary, the men should have the option of entering the reserve or of continuing to serve with the colors for their pension in the usual manner.

I would keep every private for fifteen years with the service battalion of his regiment, after that I would draft him into the second.

I would permit 25 per cent. of the men eligible for transfer to the first reserve each year to continue serving until they had completed 25 years' service, when one-half of the men so allowed to serve should be transferred to the second reserve direct; the remainder, who would be specially selected for their superior physique and constitution, would be permitted to finish their service with the colors. All Native officers and non-commissioned officers desirous of doing so might, if fit, serve the full time.

After a man had served 25 years, I would leave it to the commanding officer to keep him for the remaining five years to serve for pension, or a portion of it as he thought fit.

I would allow all men to serve with the colors for 20 years, provided they are considered in every way fit for active service; after that period they should join either the 1st or 2nd class reserve. Non-commissioned officers might be retained longer in special cases.

Vide answer 18.

I would fix no percentage, but let the movement into the reserve be voluntary, stopping it at any time if it was found too many old soldiers were leaving. As long as men are *willing and fit* to serve, it is good policy to keep them. A Native regiment with too many young soldiers would be worse than a British one in the same state.

I would have no fixed percentage, but would empower commandants, not officers in temporary command, to retain men beyond the limit laid down for pensions, the attention of inspecting generals being specially drawn to such men for their remarks and approval. Their total service should not exceed 30 years.

Those men wishing to remain with their regiments after serving twelve years should be permitted to do so until considered unfit by their commanding officers, when they might be passed into the reserve (2nd class) if eligible.

Vide answer 17.

Vide answer 18.

I would retain all men who were willing up to 20 years if fit.

21. How many days' training a year should he have ?

Colonel J. Doran, Commanding 27th Punjab N. I.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab N. I.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th N. I.

Lieutenant-Colonel H. Worsley, 7th Bengal Native Infantry.

One month in each year: half of this time to be devoted to musketry.

Under the system I propose, no annual training would be necessary. The man who had served three years with the colors would know quite enough to be an efficient soldier a month after being called up. The same with the old soldier for garrison duties.

Vide answer 18.

One month.

Not under two months in my opinion.

1st class reserve.—Two months every other year; this would be a more economical arrangement and one more popular with the sepoy than a shorter annual training. Besides which, the training could be more efficiently carried out.

2nd class reserve.—No training necessary, certainly not more than once in three years.

Ten days' annual training should suffice. It could be given at stations most conveniently situated to their homes, and which would likewise be the stations they would garrison in time of war. For these

Lieutenant-Colonel P. Harris, Commanding 11th Regiment, Native Infantry.

Lieut.-Col. L. H. Williams,
14th Sikhs.

Lieut.-Col. R. J. Walker,
17th N. I.

Lieut.-Col. R. G. Rogers,
Comdg. 20th P. N. I.

Lieut.-Col. F. B. Norman, Com-
manding 21th Punjab N. I.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native
Infantry.

Lieutenant-Colonel G. C.
Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M.
Armstrong, Commanding 45th
(Battray's Sikhs) N. I.

Major R. S. Robertson, 4th N. I.,
Offg. Asstt. Adj. Genl., Allahabad
Division.

Major R. A. Wauchops, 14th
Sikhs.

Major A. C. W. Crookshank,
32nd Pioneers.

Captain H. D. Hutchinson,
40th Native Infantry.

Colonel R. Sale Hill, Com-
manding 1st Goorkhas (L. I.)

Major A. Battye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th
Goorkhas.

Colonel R. Blair, 3rd Native
Infantry.

Colonel H. Bolsragon, Com-
mandant 1th Sikhs.

Lieutenant-Colonel J. J. Bos-
well, Commanding 2nd Sikh I.

Lieut.-Col. B. R. Chambers,
Commanding 6th Punjab Infy.

Major A. G. Ross, Command-
ing 1st Sikh Infantry.

Colonel A. Jenkins, Command-
ant 2nd Madras N. I.

Colonel G. Hearn, Commanding
15th Madras N. I.

Colonel L. W. Buck, Command-
ant 20th Madras N. I.

Colonel W. A. Gib, Command-
ant 25th Madras N. I.

Lieutenant-Colonel F. H. Tyr-
rell, 37th Madras Infantry.

Major E. Fancee, Command-
ing 11th Madras Native Infantry.

Brig. Lieut.-Gen. H. F. Brooke,
Adjutant-General Bombay Army.

annual periods they might receive a small sum, according to rank, to cover travelling and other expenses.

The first reserve one month, the second reserve a fortnight.

At least one month's training every year.

The first reserve would necessarily be always under training. The second should have 30 days in every 365.

Thirty days.

I think 28 days' training annually would be ample. I would devote at least six days of this time to musketry training, including target practice.

Two full months.

One month, and at the time the men could best be spared from their field labor.

The reserves should undergo thirty days' training in the year.

Twenty-one days.

21 days as a *minimum*, viz.—

Cloth and arm	...	...	...	1
80 drills, say	...	...	...	17
Sundays	...	...	...	3
				<hr/> 21

The drills would be 15 days of two parades a day with midday instruction, *i.e.*, 7 for squad, position and company drill, 7 for target practice and J. D. P. in morning and battalion drill in evening, and one for a field manoeuvre.

Five weeks. In the months of December and January it could easily be managed. The first week would be fully taken up in receiving the men, assigning them quarters, arms, accoutrements, duties, &c. The next three weeks should be devoted to drill and shooting, and the fifth week to paying up, discharging, &c.

One month's training.

1st class reserve, sixty days.

2nd " " thirty "

Vide answer 17.

Twenty-eight days.

By the system I have suggested herein, the 1st and 2nd lines would always be under training; the 3rd line might be called out for 30 days annually.

One month.

Vide answer 16.

I would try 15 days' *hard* training, exclusive of Sundays; if not enough, 21 days and up to 30 days.

Vide answer 20.

Vide answer 17.

Thirty days.

Thirty days' training a year.

One month when in the first reserve, and a fortnight when in the second reserve.

Pensioners should be called out for 21 days' clear drill every year.

Twenty-eight days.

Brigadier-General A. B. Little,
Comdt. 25th Bombay N. I.

Colonel S. Edwardes, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

Colonel W. Bannerman, 4th Bombay Rifles.

Colonel G. W. Hanson, Commanding 9th Bombay N. I.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner, Comdg. 29th Bombay N. I.

Twenty-five days.

The first reserve or local battalions would always be fully trained, although not so highly as the regular army.

The second reserve should undergo a month's training each year, receiving the pay of the local battalion and a free pass by rail and sea, or mileage from and to their homes.

Twenty-one days clear, or one month at most.

Vide answer 18.

At least one month. Natives rapidly forget their drill when out of harness: less than a month would be useless.

I would divide the whole recruiting area into districts, some large military stations being its centre. All reserve men in each district should be warned, through the civil authorities, of the day on which his presence is required at the centre; they should be 20 days under training, and drill establishment of regiments should be called on to take them in hand.

Twenty-one days would suffice, as in the militia at home.

Vide answer 17.

With constant looking after and training almost every other day in the year, we know how difficult it is to keep a Native regiment in perfect order. I am therefore of opinion that he would require a good many, and not be very effective afterwards.

Twenty days should suffice.

22. Where should the arms, clothing, and equipment of the reserve men be kept?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th N. I.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieut.-Col. F. B. Norman, Commanding 24th Punjab N. I.

At the military station nearest his home.

There should be a fixed head-quarter station for every Native regiment in or near the area from which it is recruited.

The clothing and equipment of the reserve men should be kept there with the companies to which they belong. Their arms and ammunition should be kept at the nearest arsenal or ordnance dépôt.

In small expense magazines to be built at head-quarter centres *in proximity to the magazine of a British regiment*. Should no British regiment be cantoned at a reserve head-quarter centre, then the expense magazine should be built at the nearest station where there *is* a British regiment.

At the district recruiting dépôt, should there be one; if not, at the cantonment nearest his home.

At the dépôt centre which would presumably be formed for the reserves of a certain number of regiments.

At the regimental dépôt, where the training should be carried out, and at which the men could be equipped on mobilization previous to joining the service battalions.

The arms, ammunition and equipment of the reserves should be kept at the stations where they have their trainings. They might be themselves entrusted with the charge of their own clothing, which would consist of that to which they were entitled at the time of being invalided.

At the head-quarters of the regiment to which they belong, and to be under the charge of a European regiment when quartered at the same station.

At the fixed head-quarters of the regiment mentioned in question No. 7.

Arms at head-quarters of divisions and districts, and clothing in possession of each individual of the 2nd reserve.

The 1st reserve would of course be always armed and equipped for service.

At the nearest military station.

Lieutenant-Colonel J. Hudson,
Commanding 25th Punjab Native
Infantry.

The arms, clothing, and equipment of reserve men should be kept at the head-quarter stations of regiments (if such a system as is contemplated in question No. 7 be carried out), or at certain central stations between Nowshera and Umballa, as might be found most convenient for assembling the men for training and payment.

Supposing the twelve battalions of Punjab Native Infantry, as now existing, to be formed into four regiments of three battalions each (excluding the 23rd and 32nd Pioneer regiments), then four stations out of the following might be selected as head-quarter stations, and one of the battalions of each regiment might be always stationed at one of those places, and there might be assembled the reserve men of the regiments for training and payment:—

Nowshera.
Rawal Pindi.
Sialkote.
Meeran Meer.
Ferozepore.
Jullundur.
Umballa.

The only difficulty would be in collecting the Pathans, for it would be inconvenient to bring them so far as Umballa or Ferozepore; but this might be specially arranged for by the whole of the Pathans belonging to the battalion below Lahore assembling at Nowshera, and being trained with the battalion there. In the same way, Sikhs belonging to corps above Rawal Pindi might be trained with the battalions at Ferozepore and Meeran Meer.

Lieutenant-Colonel G. C.
Rowcroft, 35th Native Infantry.

A broad question, the answer to which depends upon the future system and organization decided upon.

If fixed head-quarters of battalions are instituted, at such head-quarters, if recruits are drawn from particular areas of country. Otherwise at such local military centres as may be selected for the embodiment of the reserves for annual training. These centres would be the rallying points for all the reserve men of neighbouring specified districts or collectorates, and if located on the line of rail, the men ready armed and clothed could thence be despatched to their own or other battalions, to go through their training, unless local arrangements could be made at these centres for the same being properly carried out.

Lieutenant-Colonel F. M.
Armstrong, Commanding 48th
(Rattray's Sikhs) Native Infantry.

Arms and equipment at head-quarter station of district reserve; clothing to be kept by the man himself.

Major R. S. Robertson, 4th Native
Infantry, Officiating Assistant
Adjutant-General, Allahabad Division.

They should be kept with the battalion which is stationed at the fixed head-quarters.

Major R. A. Wauchope, 14th
Sikhs.

The arms in a magazine at or near the central depot under a British guard, the clothing and equipment also at the central depot.

Major A. C. W. Crookshank,
32nd Pioneers.

Under existing conditions of plum-pudding regiments, there must be reserve centres where the training would take place and the arms be kept.

* This should take 15 to 20 years by gradually recruiting from the classes only of which the regiments are to be composed.

But I hope that the future will see all our regiments class* regiments, recruited territorially and having a regimental head-quarters where the regiment or its depot would be, and where all possible reservists or pensioners could assemble for drill or inspection.

Captain H. D. Hutchinson,
40th Native Infantry.

His clothing each man should keep himself. It should consist solely of his English ammunition boots (not shoes), a *khaki* blouse, and a *khaki* turban. When he leaves his regiment he should take these with him, and keep them always. Pantaloon is not required, the Native *dhoti* is quite sufficient. If called out for active service, he could be easily supplied with pantaloon and a great coat, but it would be a needless expense to keep them up always. At the head-quarters of each division—or command—a large bell of arms should be built to accommodate the rifles and accoutrements of the reserve men. It should be in charge of the Native regiment located there. When men are transferred to the reserve, they should choose their own station to which to come into for the annual training. A roll of the 1st reserve men and of the 2nd reserve men should be kept in each staff office. An officer or two from the Native troops in the station should be specially told off to look after and instruct the reserve men when they come in. Tents should be pitched for their accommodation while they are in. In this way their training might be effectively carried out at a nominal cost to Government.

Colonel R. Fals Hill, Commanding 1st Gurkhas (Light Infantry).

With the head-quarters of the regiment, and a building to be provided for storage, or should land be allotted, the arrangements might be made at such place; and the men clothed, equipped, and sent to head-quarters of their regiments for training.

Major A. Battye, 2nd Coorkhas.

Arms and accoutrements for 200 reserve men should be kept by each regiment in its own bells-of-arms, a small allowance being made to men employed in keeping them clean. This can be easily arranged by wing commanders out of their contract allowance.

The reserve man should take care of his own uniform, consisting only of a *puggree* (regimental pattern), *khaki* jumper with regimental badge on shoulder strap, and *khaki* trousers and Hindustani shoes.

Vide answer 17.

Major F. F. Boweroff, 4th Coorkhas.

Colonel E. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

At the head-quarters of the regiment.

For the 1st and 2nd lines with them; for the 3rd one with 2nd line *depôt*, but always where there were British troops.

The arms and equipment of the reserve should be kept in the arsenals, and should be drawn by the commanding officers of regiments before the reserve men joined the battalion for training or service. Reserve men would only require *khaki* clothing for training, and they might keep it themselves. They should also be required to bring up sufficient bedding for themselves, as they would get free passes by train, and be provided with public carriage when marching to and from their regiments. In the event of the reserve being called up for active service, commanding officers should make arrangements to supply the reserve men with *poshtoons* and *chogas*.

At the nearest military station, under charge of brigade staff, who should have a staff of one classie for every 400 sets of clothing and equipment.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Lieutenant-Colonel B. R. Chambers, 6th Punjab Infantry.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras N. I.

Colonel G. Hearn, Commanding 16th Madras N. I.

Colonel L. W. Buck, Commandant 20th Madras N. I.

Colonel W. A. Gib, Commandant 25th Madras N. I.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras N. I.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 25th Bombay Native (Light) Infantry.

Col. S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regt. Bombay N. I.

Col. G. W. Hanson, Commanding 9th Bombay N. I.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Vide answer 16.

In some central *depôt*.

Vide answer 20.

Vide answer 17.

At the military head-quarters of the districts where the reserve men were likely to assemble for annual training.

At the military station where he was annually trained, which ought to be the nearest.

At the head-quarters of his regiment, under charge of the regimental quartermaster.

In the case of men of the second or garrison reserve in a *depôt* under charge of the reserve permanent staff.

At the fixed head-quarters of the regiment.

In the nearest ordnance magazine or *depôt*.

At *depôts* which it would be necessary to form and maintain for the purpose. The difficulties and delay which appear on a late occasion to have occurred in England in utilizing and equipping the reserve men make an arrangement of this nature a most important part of any scheme for a reserve.

I think *depôts* should be formed, and arms, clothing, and equipment stored there.

With the local battalion.

Vide answer 18.

This must depend on what system is adopted. *Depôts* would have to be formed for the purpose. If there are second or reserve battalions to each regiment, the *depôts* should be there.

There may be some difficulty in arranging this satisfactorily.

The arms and belts, &c., should be kept in a *depôt* at the centre station. As to clothing, when he leaves his regiment for the reserve, he should take with him his last issue of drill cloth clothing, and be required to keep it up. When embodied for service, his necessaries could be procured in a short time.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Colonel A. Carnegy, 21st
Bombay Native Infantry.

Lieut.-Col. O. V. Tanner, Com-
manding 29th Bombay N. I.

A building should be set apart for that purpose at each station near where the reserve would be assembled for training.

Vide answer 17.

With the dépôt battalion.

23. Have you any suggestion to offer as to the employment of the reserve men in the police, or in other posts under the civil administration?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

I should not recommend employment in the police, as it would probably have a deteriorating effect; but they might with advantage be employed on the railway and as chuprassis in many civil and military offices.

Colonel H. S. Obbard, Com-
mandant 41st Bengal Native
Infantry.

I would strongly recommend their being employed in every situation practicable. A well-conducted and well-disciplined soldier would be found more useful than the generality of policemen, chuprassis, &c., as I say, in answer 20, the man who has been trained to the use of fire-arms should never be lost sight of. But there must be no thought of reduction of pay. Ordinary rates should be given.

Colonel T. Boisragon, Com-
manding 30th Punjab Native
Infantry.

Certainly not in the police nor under civil administration; but they might be most advantageously employed at the several offices at army head-quarters and division head-quarters, commissariat and public works, as orderlies and peons in the place of the large number of chuprassis now kept up at a considerable expense to the State.

Colonel E. Dandridge, Com-
manding 40th Native Infantry.

I do not consider it advisable that men who are likely to be called upon to serve again in the army should have a chance of contracting the habits of petty tyranny and bribery common to policemen and other subordinates connected with the civil administration of the country.

Colonel G. W. Fraser, Com-
mandant 39th Native Infantry.

I do not consider that it would be desirable to employ reserve men in the police, as in the event of their being called in on the outbreak of war, their services would be all the more required as police to maintain order in the absence of the regular troops on service; but I think they might with advantage be employed in the public works department, railways, and other Government employ, though of course only voluntarily.

Lieutenant-Colonel H. Worsley,
Commanding 7th Bengal Native
Infantry.

It is precisely in times of civil commotion, or when a large proportion of the army is on service, that you most require the police. It would therefore be unadvisable to employ reserve soldiers in the police.

They might perhaps be employed to a certain extent as chuprassis, or on the railways, as, if required for military duties, such places could readily be filled up from the civil population.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infan-
try.

The reserves consisting, as I propose, of the serviceable portion of our invalids, I would not advocate their employment in any civil capacity.

Lieutenant-Colonel R. J.
Walker, 17th Native Infantry.

I have no suggestions to offer as to the employment of the reserve men in the police, as I do not know sufficient of the working of that force; but if the police authorities could be induced to employ some of the reserve men, I think it would be an excellent system to introduce, and I would strongly advocate the civil employment of these men in every possible way,—supposing of course that the men themselves were willing to volunteer for it.

Lieutenant-Colonel R. G.
Rogers, Commanding 20th Punjab
Native Infantry.

The present police might and should to a very great extent be replaced as vacancies occur by men of the pension establishment (2nd reserve), as also the army of chuprassis, village watchmen, tax collectors, postal peons, jail, canal, and customs guards, and petty officers, railway signallers, gate-keepers, pointsmen, &c., and most other posts under the civil departments. Men so employed should be subject to periodical medical examination, and should, while serving, draw the difference between their pension and the stipends of present incumbents of such berths as they might be appointed to.

Lieutenant-Colonel F. B.
Narman, Commanding 21st
Punjab Native Infantry.

I do not suppose that the police officers would be willing to employ men who would have to attend military training for a certain time in each year. I also consider that it would be more impolitic to in any way affiliate the reserve with the police.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native
Infantry.

There are unquestionably many situations under the civil administration in which reserve men might be usefully employed,—such as warders and peons at jails and prisons, also on the lines of railway; but I am inclined to think their employment in the police would not be altogether advantageous.

I think the more the police force of the country is kept separate and apart from the army the better. At present there is a good deal of jealousy between the men of the two forces, and I am by no means sure that it has not its advantages.

Lieutenant-Colonel G. C.
Rowcroft, 35th Native Infantry.

I would decidedly not employ them in the police, as I fear they would contract habits and knowledge not to be wished for in a soldier. I think, however, they might be advantageously employed in other posts, and with a saving to Government, as chuprassis and messengers; though the inconvenience must be taken into consideration which would result from their being withdrawn for annual training, or for sudden embodiment in war time.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rat-
tray's Sikhs) Native Infantry.

Difficulties would certainly arise by the sudden withdrawal of large bodies of reserve men from the police on any other civil employment. I have no suggestion to offer for the employment of the reserve men. I consider they should be a distinct body, available for any sudden call.

Major R. S. Robertson, 4th Na-
tive Infantry, Officiating Assist-
ant Adjutant-General, Allahabad
Division.

I think it would be a good plan to employ a certain proportion of the reserve men in the police, or in other posts, if they wish such employment. Perhaps arrangements might be made with the civil authorities to employ a small percentage of reserve men with the police stationed within the battalion's recruiting area. The percentage to be so small, that it would not, in the event of the reserves being called out, materially affect the efficiency of the police.

Major A. C. W. Crookshank,
32nd Pioneers.

A fixed percentage, not exceeding 50 per cent. of the police, should be reservists; and priority of selection should be given to reservists in the minor posts of the State railways to a similar extent. Similarly, to a greater percentage, say 75 per cent., all posts of chuprassie in civil courts, offices, and other institutions under Government, patrols, chowkidars, forest rangers, and fixed hired labor. In all departments under civil and military the numbers and posts should be fixed by the head of the department and not be less than 50 per cent. In the civil administration, deputy commissioners should be held responsible that from 50 to 75 per cent. of posts are held by reservists, failing which the pay of the employes should be objected to by accountants-general. Thus alone can the movement be made popular. To avoid crippling departments, only half would be called out at a time for drill.

Captain H. D. Hutchinson,
40th Native Infantry.

I should not approve of their being so employed. Perhaps, too, it would in such cases be inconvenient to spare them when required for their annual training.

Colonel R. Sale Hill, Com-
manding 1st Goorkhas (L. I.)

Goorkhas who go in for this sort of employment do not enlist in the army.

Major A. Batty, 2nd Goor-
khas.

The police could be always utilized as it is for a reserve by calling for volunteers from it to assist in completing the war strength of regiments ordered on service. But neither the police nor other departments should be crowded with reserve men, on whose sudden withdrawal those departments would become disorganized.

Major F. F. Rowcroft, 4th
Goorkhas.

Vide answer 17.

Colonel R. Blair, 3rd Native
Infantry.

I should allow the man to take any employment, so long as it did not interfere with his usual training.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

By my suggestion, only the 3rd line, or invalids, would be available for police duties or chuprassi work, to be employed in their own districts or for railway purposes. I do not perceive how else they could be well utilized in other posts under civil administration.

Lieutenant-Colonel J. J. Bos-
well, Commanding 2nd Sikhs.

I do not think men of the reserve should be employed in departments which would, in the event of the reserves being called out, lose their best men; besides it is not every soldier who is fitted for police duties, as I can testify to from experience when the Punjab Military Police Battalion (which only performed military duties) were drafted into civil police in 1861.

Lieut.-Col. B. R. Chambers,
Commanding 6th Punjab Infy.

Vide answer 16.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

In every district there are jail and treasury guards, besides the reserves. These are furnished by the police on average pay of Rs. 7 per man per mensem. In each district there are some 250 men so employed, or altogether 5,000 or 6,000 men. Pensioners would do this duty as well, if not better; and the pension, Rs. 4 per mensem, or Rs. 20,000 monthly, would be saved. The collectors and tahsildars' peons—a numerous body—should be pensioners.

This body of trained pensioners in time of need could be largely increased.

Colonel L. W. Buck, Commandant 20th Madras N. I.

If reserve men are employed in the police, the latter force would be rendered inefficient whenever the reserves were called out.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

I would not mix up the reserve with the police; and, besides, how would their police duties be carried out while they were training? The more they would be employed by Government in posts under the civil administration the better; but would Government spare their services annually for a month's drill?

Lieutenant-Colonel F. H. Tyrell, 37th Madras Native Infantry.

If the preference were given to reserve men in filling up the posts of peons, &c., in civil departments, it might encourage men to volunteer for the reserve. They would probably not find it difficult to obtain substitutes to act for them while they were at their month's annual training.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Pensioners are now employed in various appointments on the railway, as night watchers, as chowkidars, and in some of the dāk bungalows; and I see no reason why the second class of reserve should not be so employed. Police superintendents would not care to employ men of 25 years' service.

Major E. Faunce, Commanding 14th Madras Native Infantry.

I would not employ pensioners liable to be embodied in the general police force, as when called out the police administration of the country would suffer; but pensioners liable to be called out should exclusively be employed as post and telegraph delivery peons, village and municipal police, as ehuprassias, moochias, and such other small posts. These posts are of such a nature, that the temporary withdrawal of the men, though it would cause temporary inconvenience, would be in no way really detrimental to the civil administration of the country; and it would, bearing in mind the sensitiveness to any change that has to be kept prominently in view in all changes, be wise, while requiring pensioners to give a small return for the stipend they receive, to give them something on the other hand. The posts to be reserved for such men should be clearly prescribed by Government, which should, and could easily, take effective measures to ensure no others being appointed. Men so employed should receive their pension as at present and two-thirds of the present pay of the civil incumbents of the posts. Every one knows how much Natives of India hold by Government appointments; what consequence it gives them, and indeed all their relations, in their native villages; and I feel sure that, accompanied by some such scheme, the change I propose would not only be popular itself, but would greatly assist recruiting, which it much wants.

Brigadier-General H. F. Brooks, Adjutant-General, Bombay Army.

If the reserve men could be employed in the police, one of the strongest objections to the formation of the reserve would be overcome; and I believe such an arrangement to be possible.

Brigadier-General A. B. Little, Commandant 25th Bombay Native (Light) Infantry.

I think men in the reserve might take the guards over jails, treasuries, escorts of prisoners, and such like duties.

They might be made drill masters of police at the head-quarters of districts.

They might fill the places of peons or ehuprassias in all Government offices, jails, &c. Their pay might be the same as these people now receive; and when they become unfitted for such duties they might then fall back on their pensions; or even if any additional pay was granted them, I think a very large amount would be saved by Government.

Colonel S. Edwards, Commanding 2nd (Prince of Wales's Own) Grenadier Regiment Bombay Native Infantry.

I am of opinion that there should be a local battalion in each district, composed half of men of the first reserve and half of men enlisted in the locality, or in any other proportion as time and experience may teach. These battalions to be well armed and properly trained, having a commandant or 2nd-in-command and an adjutant—officers retired or seconded from the regular army. The guarding of civil treasuries, jails, and all police duties should be performed by the men of these battalions. On the outbreak of hostilities, as many of these local battalions as are required should be sent to the seat of war to garrison forts and posts, and keep open the line of communication between the fighting line and the base of operations, their place in the district being taken by the men of the second reserve.

Colonel W. Bannerman, 4th
Bombay Rifles.

As a rule, the reserve men should not be employed in the police or in other posts under the civil administration. A system of this kind would tend to make them lose sight of their identity with the reserve. The absence of the men to attend the annual training course would probably cause inconvenience to the public service; and in cases where their temporary absence for this duty from their present employment resulted in any pecuniary disadvantage to themselves, the men would become discontented.

Col. G. W. Hanson, Command-
ing 9th Bombay N. I.

Vide answer 18.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

It would be an additional inducement to join the reserve if they could get service in the police; but this arrangement would materially interfere with police duties when the men were suddenly called away. I hardly think therefore this is feasible. Good men might with advantage be employed in many posts under the civil administration.

Colonel R. Mallaby, Command-
ant 13th Bombay Native Infan-
try.

The difficulty in employing these men in the police to any great extent is the necessity of withdrawing them from that force at a time they might be most wanted. They might be, however, employed as drill masters at the head-quarters of police districts, and with the advantage that enrolled policemen would not be withdrawn from their legitimate duties. I would have all posts of chuprassi, peon, and others in the police, revenue, and judicial offices reserved exclusively for these men. In case of popular disturbance others might be found to fill their places temporarily.

Such a system would probably have a good effect on our recruiting. Indeed it would do more than this, as while so employed they would receive the emoluments which are now received by the civilian; and as his pension or reserve pay would be in abeyance wholly or in part, a very material and direct saving would be effected.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

There would be this objection to employing the reserve in the police, that in the event of war that force would find itself denuded of some of its best-disciplined men at a time when it should be in its most efficient state. It is well known that, when the Government has its hands full elsewhere, advantage is then taken by the discontented to create disturbance. Besides this, it would be highly inconvenient to the police having a number of its men taken from its ranks each year, for one month, when the training would be taking place. Regarding civil employment to the men of the reserve, it would be highly desirable that they should have, if possible, a prior claim to such; but at the same time it would be necessary to ensure the man's return to his appointment when his services with the army were dispensed with. Otherwise they would naturally feel that they had been unjustly treated; and that would have a very bad effect.

Colonel A. Carnegie, 21st
Bombay Native Infantry.

Vide answer 17.

Colonel J. Fairbrother, Com-
manding 22nd Bombay Native
Infantry.

I would keep the Native army, police, and inhabitants of the country as separate and distinct as possible. I consider it would be a great mistake to employ any men in the police who was likely afterwards to be called upon to serve with the regular Native army, for many reasons. I may mention one or two. First, if the reserve was called out, the police force would be reduced; second, the reserve men who were with the police would be likely to import into the army, many new ideas they are better without; third, they would have become too familiar with the inhabitants of the country. But if a plan could be adopted of getting young men of good family to serve ten, twelve, or fifteen years in the regular army, and then transferring their services to the police—or, in other words, make the only door open into the police service, railway as well as district and municipal, for Native officers, as well as for non-commissioned officers and men, be through the Native army—to serve a certain number of years to complete their time for pensions, both services would benefit, the army would have much younger soldiers, and the police would receive trained men.

Lieut.-Col. O. V. Tanner, Com-
manding 29th Bombay N. I.

I think some might be employed in the police, with advantage to that body and without detriment to the regular army.

24. Where should the reserve man undergo his annual training ?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

If possible at the head-quarters of his late regiment; otherwise at the military station nearest his home.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab N. I.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal N. I.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. J. Rogers, Comdg. 20th P. N. I.

Lieutenant-Colonel F. B. Norman, Comdg. 24th P. N. I.

Lieutenant-Colonel J. Hudson, Commanding 26th P. N. I.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieut.-Col. F. M. Armstrong, Comdg. 45th (Rattray's Sikhs) N. I.

Major R. S. Robertson, 4th N. I., Offg. Asst. Adjt.-Genl., Allahabad Divn.

Major R. A. Wauchope, 11th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (L. I.)

Major A. Batty, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenling, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Esch, Commanding 2nd Sikhs.

Lieutenant-Colonel B. R. Campbell, Commanding 6th P. I.

Under the system I propose, no annual training would be required. When called up, he would at once proceed to the head-quarter station of his regiment, and rejoin his company.

All the British officers of a Native regiment should be intimately acquainted with every portion of the area from which they recruit, every town and village, its resources, and every particular that might be useful in military operations; and they should be known throughout their district, and be invested with powers for enlistment, registration, and calling up reserve men, without working through the civil district officer. Commandants should also be district pension paymasters.

At whatever place fixed on as the head-quarter centre of the regiment.

At the district recruiting depôt, should there be one; otherwise at the nearest cantonment.

At the depôt centre, which would presumably be formed either at the head-quarters of a division or district, where they could be exercised with regular troops during the latter part of their training.

At the regimental depôt, which in most cases would be nearer his home than any other military station.

As before stated (No. 21), at the stations nearest to the homes of the reserve men. District circles allotted to each training centre is a matter of detail, which could easily be determined hereafter.

Also at the head-quarters of their regiments.

The reserve man might receive his training with the fixed head-quarters of his regiment.

Military head-quarters of divisions and districts.

As a rule, at the nearest military station.

At some central stations, as described in my reply to question No. 22.

See answer 22.

At the head-quarter station of his district.

With the battalion, which is stationed at the fixed head-quarters.

At the fixed head-quarters of the regiment or regimental depôt.

See answer to question 22. At the reserve centre under existing conditions; at the regimental head-quarters under the hoped-for arrangements.

At the head-quarters of each division.

At the head-quarters of the regiment.

With his own regiment, if it is quartered in or near his province; otherwise with the nearest regiment, provided no one regiment had more than 250 reserve men to train.

Vide answer 17.

At the head-quarters of his regiment.

I have replied to this in answer to question 21: the third line, invalids, at the depôt of the second line, or reserve of first line, or battalion.

With their regiments, because it is essential to keep up regimental feeling in the reserve. Soldiers are worth nothing unless they have this feeling.

At the nearest military station.

Vide answer 16.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras N. I.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras N. I.

Major E. Faunce, Commanding 14th Madras Native Infantry.

At one or more central points of district.

With his battalion, if anywhere.

Vide answer 17.

At the military head-quarters of the districts in which the reserve men are residing.

At the nearest large military station.

The man of the first reserve at the head-quarters of his regiment. The man of the second reserve at the station which might be the depôt of his reserve regiment or battalion.

Fixed regimental head-quarters.

With the regiment quartered at the station nearest his home where there is an ordnance magazine or depôt. No special staff for instruction purposes would be required, nor for ensuring orders reaching the men at other times. In Madras pensioners are paid monthly in arrears by "officers in charge of pensioners," who can at all times communicate with them.

At the reserve depôts.

At the depôt.

With the local battalion of his district.

At the head-quarter station of the nearest divisional or brigade command.

Vide answer 18.

With their original regiments, where more interest and care would be taken with them than under strangers.

At the chief military station of the recruiting district: *vide* answer 21.

At certain stations in proximity to where the men reside.

Vide answer 17.

At the head-quarters of the depôt battalion if in the regimental district.

25. Would the reserve system be popular with the Native army?

Colonel J. Doran, Commanding 27th Punjab N. I.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 80th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal N. I.

Lieut.-Col. P. Harris, Commanding 11th N. I.

I have no means of judging exactly, but I think it would be.

I think it would; but it would depend greatly upon the way in which it was worked.

I am of opinion that, with the class-regiment system as the organization, it would be extremely popular. The opening out of canals has increased the value of land and of labor so much, that service in the army, with the difficulties of getting leave at the proper season of sowing and reaping, is not popular; and service in the reserve would be extremely popular.

Very much so, if confined to pensioners.

Yes; provided terms were offered somewhat similar to those suggested in answer 18, or other inducements equally liberal were held out to the men.

With agriculturists particularly so, as after a few years' service they could return home with the prospect of pension.

Yes; so far as I can judge, I think it would.

Lieutenant-Colonel L. H. Williams, Commanding 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, Commanding 35th N. I.

Lieut.-Col. F. M. Armstrong, Comdg. 45th (Rattray's Sikhs) N.I.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 4th Native Infantry.

Colonel R. S. Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Lattye, 2nd Goorkhas.

Major F. P. Rowcroft, 4th Goorkhas.

Captain R. Blair, 3rd N. I.

Yes; I am sure it would be.

Yes; I think it would. I imagine any system which would allow a man to see a great deal of his home would be popular with a Native soldier; and should think that the difficulty would be to get a man to stop with the colors and undergo the hard training of the present day.

I believe it would, as the pensions, though liberal, are barely sufficient (in the lower grades), and would be rendered so by the Rs. 2 per mensem proposed.

That would depend upon several points. Considering that most of our sepoys are of the agricultural class, I am of opinion that one of the chief inducements for a man to join the reserve would be that he would be enabled to look after the cultivation of his land. I would therefore suggest that the training should take place at a time when there is no work in the fields, and should be fixed by the officer commanding the division or district after communicating with the civil authorities. Again, I think it would be unpopular if the men had to go for the training to a long distance from their homes.

I believe it would. The great thing would be to make the assemblies for annual training as little inconvenient to the men as possible, and I do not think much difficulty would be experienced in doing this.

Very popular (see answer 16).

Very popular, I think.

I cannot reply decidedly, having had no opportunity of hearing expression of Native opinion on this point—a most important one; but I am inclined to think that if the system was fully understood by the Native soldier, and sufficient inducements to enter the reserve held out, it would be popular.

I think it would be so popular, as soon as it was understood that the number of men desirous of entering our army would be immensely increased. At the same time it would be necessary to make some arrangement other than is at present in existence with foreign States, from which many of our soldiers are enlisted. As it now is, if one of our men deserts, or refuses to rejoin from leave, or even if he is under sentence of penal servitude and escapes, and he belongs to the Puttiala State, no assistance is given for his recovery; and the Commissioner of Umballa says that none will be given us.

A reason for my saying that the reserve system would be popular is that any man, being tired of the daily monotonous life that a sepoy must in time find it, or his presence being required at his home, can leave at any period of his service with a small annuity and the prospect of a pension.

No, not with the mass; and were it enforced, it would, I think, greatly check recruiting. It would suit a few, *i.e.*, the restless vagabonds (excellent soldiers forsooth), who enlist for as long as the fancy takes them; the north-western frontier tribes, who merely want to learn a profession of arms; landowners, who merely want to amass a few rupees to enable them to purchase a plough and oxen; men with a certainty of local employ; and Native officers and non-commissioned officers whose reserve pay would support them in the *otium cum dig.* of paid idleness. But the mass seek the certainty of provision for life which the army offers, with its honorable and comparatively easy career.

Goorkhas, for instance, hold on to the last to the pay which the State grants; and so does the Madrassi for the sake of his "sisters and his cousins and his aunts." In fact, I believe that army employment in Madras is creating a military caste, who look to it solely for a livelihood; and if so, a reserve system would break up a very loyal element, and the best form of loyalty—that of obligation.

So far as I can ascertain, yes.

I feel sure it would be popular with Goorkhas. They have, as a rule, got such large families, and are so impecunious, that the pay would be a great inducement to them.

Yes, if left perfectly optional with the men whether they should remain with the colors as long as they do now, or join the reserve.

Like answer 17.

I think it would, as men would be glad to revisit their comrades.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jeolins, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Lieutenant-Colonel B. R. Chambers, Commanding 6th P. I.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel G. Hearn, Commanding 15th Madras N. I.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras N. I.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 25th Bombay Native (Light) Infantry.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

Colonel G. W. Hanson, Commanding 9th Bombay N. I.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay N. I.

I think the reserve system would be most popular with the Native army and population of India generally, if it were carried out judiciously.

It would be altogether an experiment; but I think it would be popular if the reserve pay is not too small. I think I should begin by forming a reserve for a certain number of regiments.

I am informed by Natives to whom I have explained the system that it would be popular, and am of the same opinion myself. Should it be adopted, and be found to be a success, and when the active reserve shall have reached some dimensions, it may be possible to reduce the Native army.

Vide answer 16.

I cannot say, as I do not know what grasp they have of it.

The reserve system would be unpopular with the Native army. What makes Government service so popular now is its continuous pay and permanency.

Vide answer 17.

No; recruits are drawn from the agricultural classes, and enlist to escape the hardships and uncertainties attending that kind of life. Three or four years' service with a regiment would make them unwilling to return to it.

I do not think so.

I really cannot tell. Natives generally take a long time to get accustomed to anything new. Our sepoy in the Madras army look forward when they enlist to spending their lives with the colors; and many of them have no home but the regimental lines.

I think a reserve system would be popular after a time, but certainly not the English system.

A simple reserve system, with pension deferred, or no pension at all, most decidedly not. The system I propose of making men passing to the pension list in the ordinary way, the reserve, if fit for garrison duty, and giving them certain advantages, would, I think, be very popular.

Judging from the large numbers of men who now succeed in leaving the Native army, under the operations of the invaliding pension rule, after 15 years' service, it would appear that any arrangement which would allow of men returning to their homes with a small monthly stipend after that length of service would be popular.

No; I do not think the reserve system would be popular with the Native army, for when a man has to leave his old regiment, he wishes to give up the life of a soldier altogether, and to live on what pension he may be granted quietly at his own home. But I think many men would gladly take the appointments such as I have mentioned in my answer No. 23.

I think it would, if the men are not compelled to go back to their homes too soon after enlistment. It should be left to them to choose. It is with this object, and to avoid making any radical change, the effects of which cannot be foreseen, that I advocate the first reserve men being locally employed.

Vide answer 18.

I have hesitation in giving an opinion on this point; so much would depend upon the terms.

Compulsory service in the reserve would not be popular, as it would increase the period for pension.

I do not like the reserve system, and I do not believe it would be popular; though the suggestion I have made in reply to question 23 might make it less unpopular.

I think it would; for it would ensure the man's getting a certain amount of pay each month, small though it would be, for a number of years, with only the remote chance of his having to leave his own home.

Vide answer 17.

If the pay was good, and little work, it would; but if the above conditions were reversed, it certainly would not.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

I think it would be very.

26. Have you any suggestions to make regarding the Native army which would increase its efficiency while diminishing expenditure, or at least without adding to it?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

I am not prepared with any at present which would not lead to increased expenditure.

Colonel H. S. Obbard, Commandant 41st B. Regal Native Infantry.

I think the formation of district regiments, answers 10 and 24, would tend considerably towards efficiency and diminution of expense.

There would be no charges for recruiting, or for transport of sick-leave men and invalids (men discharged for physical unfitness or pensioned).

Long furloughs would be necessary. There would be no charges for transport if the leave men were called up for service. The leave men being close at hand, would all be available immediately. The men themselves would be saved heavy charges for railway transport for themselves and families. The pay department might be reduced by the payment of all pensions being made over to regiments. All office work and correspondence with regard to remittances would be obviated. Recruiting would be much facilitated. Men would come forward much more readily. The registration of recruits and all men trained to the use of arms, reserve men, &c., &c., would be managed by the British officers of regiments, and would save the civil officers much work, while being done much more satisfactorily.

The British officers would be able to call up the reserve men without delay or difficulty. They would be thoroughly acquainted with all information of military value regarding their districts—a most important part of which would be thorough knowledge of all transport available.

I think there can be no doubt that the British officers of a regiment of Native infantry would be more profitably employed in the performance of duties such as I have described than in standing wearily, hour after hour, week after week, month after month, to watch firing at a target.

I do not ignore the value of superintending target practice as all other duties; but so much is required of the British officer in that respect, and so little allowed to the Native officer, that both are weary and heartsick.

I think a diminution of expenditure might also be attained without detriment by the abolition of the Normal School at Umballa, and the office of inspector of Native army schools. So many well-educated men are at all times available, who have passed through the different schools and colleges in India, that a special training school, where men are kept five years under instruction, appears unnecessary; and I look upon special inspection with regard to the educational progress of regiments as superfluous.

I should also like to say a few words with regard to the Military Account Department, which is intimately connected with the Native army, and a great power for good or evil.

It consists of a great number of very highly-paid officers with a perfect army of clerks. Its elaboration proceeds day by day; but alas! we see no progress. Time is wasted, and charges for stationery and postage are incurred in calling for useless certificates, and recording petty objections for sums not worth recovery; and more and more forms and returns are invented, while first principles are lost sight of.

Circle paymasters have been comparatively useless (as regards the Native army) for a long time. They were supposed to examine pay abstracts roughly only; and unfortunately they rarely objected to any sum they did not have to pay after correspondence. Pay examiners then got the abstracts, and statements of objections were issued by them, as above noted, which after correspondence had mostly to be withdrawn.

It will be seen that the duties of both paymasters and pay examiners have hitherto been very light, and much in inverse ratio to the sums charged to Government for their maintenance. Now, however, a new system has been devised by the Controller (*vide* his circular No. 45 of 1879) in which work for both examiner and regimental officer has been ensured, while the labor of the paymaster has been reduced to the mere issuing of a cheque. Pay for regiments is to be issued on estimate prepared about the 20th of the month. The same system of payment in arrears is maintained; but we are not allowed to take the exact sums we require. There will be a never-ending stream of objections flowing from the examiner, which will materially augment labor and correspondence without any benefit.

It appears to me that the audit of accounts might be much facilitated, and the expense very much reduced, if a military audit office were attached to the accounts department of each lieutenant-governorship, with a compiling office, if necessary, at Calcutta.

Commandants of Native regiments should be recognized as paymasters, which they really are, and pension paymasters, if district regiments should be formed. But in the latter case, Controller's Circular No. 451 of 1879 would have to be modified; the amount of records, returns, and accounts prescribed therein must surely be far in excess of requirements for sound practical work. If commandants of regiments were pension paymasters, a good clerk on Rs. 100 a month might suffice, instead of the establishment noted in paragraph 3 of said circular. As regards regiments, I see no necessity for monthly estimates and the issue of cheques from a circle pay office. The pay of a regiment amounts to a certain monthly sum; and treasury officers should be directed by the office of audit to pay such sum as might be demanded, within that limit, on the 1st of every month; excess requiring sanction. Other bills payable within the province could be provided for in the audit office, which would supersede the present pay office.

Under the present system there is great delay in the audit of accounts, which might be obviated if the audit office were close at hand. I have just received notice of an objection to some three rupees on account of camels employed in carriage of tents for the moveable column in January 1876; the

audit office objecting to the organization of companies, and wishing to count up men detached, to make them so many full companies. If the objection should be upheld, it will hardly be worth the time and labor expended.

If any comment on the articles of war comes within the scope of this enquiry, I would suggest the advisability of the power of discharge and reduction without trial being restored to commandants, and of reduction to a lower grade of non-commissioned officer being sanctioned.

I think the commandant's oath before every trial might also be advantageously dispensed with.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Reduce the amount of paper work; let the commands of regiments be held for only five years; give fuller powers to commanding officers over all ranks for reduction and dismissal (excepting of the Native commissioned officer) without intervention of courts-martial; let Rs. 15 of a subadar's pay be "command allowance," subject to forfeiture by order of commanding officer if he is careless and negligent in looking after his company (or half-company, as it will be under the proposed organization of eight Native officers to four companies); do away with the grade of jemadar; let all escorts and garrison orderlies and guards be furnished, as proposed, by the reserves; and, I would add, deduct one-quarter of every man's pay when he goes on furlough; but I fear this can scarcely now be done without causing a *general dissatisfaction*. It was a very false step giving men *full* pay while on furlough. The army never expected it, and were more than surprised when the order was issued. The Native *quite* understood the custom of "wages for work." The concession has not made the army any more popular; but is, I am sure, looked upon in the light of a "weakness," especially when it is well known that officers (British) are put on reduced allowances, while no difference is made to the Native. The Rs. 30 "kit-money" was a just and popular measure, as was the good-conduct pay rules. Pension rules require thorough remodelling as proposed. Clothing should be made up regimentally and supplied in bulk. It could be made up on the scale sanctioned in clothing rules, and there would be no bills for "alterations and fitting." *Part-worn* clothing should not be supplied to Native officers, and he should not be put to the indignity also of drawing "compensation for dearthness of provisions," as though he were expected to live as a sepoy on Rs. 3-8 a month. Native officers' quarters are quite unsuitable for Native gentlemen of direct commission. If "class regiments" is to be the future organization, quarters like the present staff sergeants' bungalows, to accommodate two Native officers in each, with a general Native officers' *mess-room*.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

The plan sketched at the commencement of this paper would, if carried out, I believe, greatly increase the efficiency of the army and without adding to its expenditure. It precludes also the expense of a reserve.

This is a very difficult question to answer, and opens a field of suggestions. There are no doubt many means by which the efficiency of the Native army would be increased, as regards regiments individually and collectively; but whether it would be practicable to carry them out

in safety, considering the vast extent of country our troops are called upon to garrison, is a question for the Government to decide. But I will only state what I consider might be a means of increasing efficiency with, I believe, a considerable reduction of expenditure, without offering an opinion on the practicability of application of the measure.

If the strength of each regiment were increased, and the number of regiments reduced, the result, I believe as far as those regiments were individually or collectively concerned, would be an increase of efficiency with a saving of expenditure. To explain. There are 60 regiments of Native infantry, including the Punjab Frontier Force, and exclusive of others, in the Bengal army. Each of these numbers at present 680 men, or a total of 40,800 bayonets, exclusive of Native commissioned officers, drummers, &c. If this number were reduced to 40 regiments in lieu of 60, each battalion would muster 1,020 men, including non-commissioned officers, but exclusive, as before, of Native commissioned officers and drummers.

I have little doubt that regiments of this strength would be more effective than as at present constituted, while the saving to Government would be as follows:—

			Rs.	A.	P.
Pay of non-effective staff per regiment per month	...	...	17	8	0
Do. hospital establishment	...	...	90	0	0
Do. bazaar	...	...	43	8	0
Do. educational	...	...	45	0	0
Band allowance	...	...	100	0	0
Mess	...	...	100	0	0
Adjutant's staff pay	...	...	250	0	0
Quartermaster's	...	...	150	0	0
School shed allowance	...	...	20	0	0
Butts and targets	...	...	4	0	0
Total per regiment	...	...	820	0	0
					20

Total for 20 regiments ... 16,400 0 0

or per annum ... 1,96,800 0 0

nearly two lakhs per annum.

But this is not all. A considerable saving would also be effected by the reduction in the ranks of Native commissioned officers and drummers. Thus the present establishment of these ranks at 16 of each for 60 regiments is 960 of each.

If the proposed 10 regiments were to consist of ten companies each, with 20 Native commissioned officers and 20 drummers per regiment, the total of each of these ranks would be 800. In other words, the State would save the pay of 160 Native commissioned officers and 160 drummers.

The European officers of the 20 regiments thus broken up could be distributed among the remaining 40 regiments, and help to raise the number of British officers in these to the complement proposed in answer to question 4.

As in the event of the present complement of British officers being at all largely increased, the system of promotion no doubt would become a regimental one, and the staff allowance of wing commanders, &c., probably cease, the saving that would be effected in the staff pay of the commandants, wing commanders, and wing officers has not been taken into consideration in these calculations, as such saving would be absorbed in raising the pay of officers of all ranks from staff corps to old local rates, which would then have to be done.

Lieutenant-Colonel H. Worsley,
Commanding 7th Bengal Native
Infantry.

My answer to this is embodied in my foregoing answers; but, for convenience of reference, the proposals therein made are here recapitulated:—

(1) Increase of peace strength of service battalions in men and officers.

(2) Decrease of number of battalions maintained in peace.

(3) Adoption of a regimental system.

Every four battalions of the Native army to be broken up and formed into one regiment of a depot and two service battalions; the latter capable of expansion into four battalions in war time by calling up reserves.

(4) Localization of recruiting depôts.

(5) Separation of the Bengal and Punjab armies.

(6) The adoption of a class battalion system and total suppression of mixed corps.

Lieutenant-Colonel P. Harris,
Commanding 11th Native
Infantry.

The fundamental, and as I believe fatal, error we are pursuing in the Native army is the vain endeavour to advance the professional position and importance of Native officers, whilst reducing to a most dangerous extent the only element in it that would be *thoroughly* reliable in an emergency, and when opposed (as they have never yet been) to a trained enemy with arms of precision. I refer to European officers; I do not say that there are no good and reliable Native officers. I have at least one in my own regiment as good as any of my European officers; but these are the exceptions, and are so few as hardly to be taken into account. Brave to a degree, and capable of overcoming great difficulties when led by skilful commanders in whom they have implicit confidence, yet I do not believe it to be in the nature of an Asiatic when in an emergency, at a supreme moment, so to speak, to have that self-reliance and cool judgment so essential to success. In short, I would advocate more European officers; and if the expense cannot be met in any other way, I would reduce the emoluments of the present extravagantly-paid Native officer. In expressing these opinions, I know I am opposing the views of Lord Napier and other distinguished officers; but as I am distinctly asked for suggestions that would in my opinion advance the efficiency of the army, I have felt bound to do so. The subject is one, however, that cannot be fully discussed in a paper of this nature, though I shall be glad, if required, to give further reasons for my opinion on another occasion.

Lieutenant-Colonel H. Williams,
14th Sikhs.

If localized as suggested by me, a better class of recruits would be obtainable, the efficiency of the regiment would be increased by furlough being unnecessary, while expenditure would be diminished by there being no relief.

Lieutenant-Colonel R. J.
Walker, 17th Native Infantry.

Any suggestions I might make would, I am afraid, only increase expenditure and not decrease it.

Lieutenant-Colonel R. G.
Rogers, Commanding 20th Pun-
jab Native Infantry.

None without increase of expenditure, as the sepoy is now worse off than most of the menials in his officer's employ. To render the army popular, to pay good men to enter it, and to increase its efficiency, Government must raise the pay of the sepoy and non-commissioned officer, and be far more liberal as regards clothing and compensation for the same when destroyed on active service. While the pay of the commissioned officers has been raised, and the period of service for good-conduct pay for the sepoy reduced, the non-commissioned grades alone remain unbenefited—the grades on which so much onerous, and often unpleasant, work falls, and on which the efficiency of the army so much depends.

Lieutenant-Colonel F. B.
Norman, Commanding 21st
Punjab Native Infantry.

I think some plan should be devised of rewarding, by the bestowal of an honorary title and a medal, Native officers of *all* grades who may have done good service, but which was not of a nature to gain admission to the Order of British India or the Order of Merit. The last Native officers admitted to the Order of British India entered the service in 1856. Now there are a good many subadars who entered the service as subadars in 1857, and whose chance of gaining admission to the

Order of British India is very remote. Again jemadars are but rarely admitted to this order. I would suggest either that a new order should be created, or that the rules of the Order of British India should be altered, and a third class made, which should be bestowed on all subadars after 20 years in that grade, and on jemadars who may have performed some specially good service. The new order not to carry any increase of pay. (See answer to question 28.)

Lieutenant-Colonel G. O. Bowercroft, 35th Native Infantry.

My previous answers state my views on the subject of increased efficiency. Expenditure would not be added to, as the heavy charges of the invalid establishment would be barely reduced by the reserve system, and by gratuities on discharge, instead of pensions for life; the latter of course being still retained for wounds and injuries and special cases only, not for the mass.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Battray's Sikhs) Native Infantry.

It is very difficult to gain increased efficiency without increased outlay. More European officers and more sepoy to each battalion would, I believe, prove a saving in the end, and a good reserve would allow of a reduction in the number of regiments. The pay of none of the different grades will bear cutting down. Already the better class of men hesitate to enlist. Service for pension might be lengthened. The pension establishment is much overgrown; but again pension is the chief inducement for men to enlist. Establish a good reserve; reduce any class of regiments unfit for service *anywhere*; keeping the remainder in the most efficient state by adding largely to the number of sepoy, and increase the number of European officers.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

I venture to think that if the staff corps was abolished, superfluous field officers got rid of by liberal inducements to retire, and the grades so distributed that there would not be an undue proportion of senior officers with regiments, a considerable saving would be effected, and the efficiency of the army increased. The officers of three or four regiments might then be amalgamated and placed on one seniority list for promotion; but this cannot be effected without doing away with the staff corps, and getting rid of the officers of the old Indian army.

Major R. A. Wauchopo, 14th Sikhs.

A commanding officer should have the power of discharging a soldier without the assistance of a medical board. Many men without becoming subject to trial by court-martial may be very indifferent soldiers.

Major A. C. W. Crookshank, 32nd Pioneers.

Yes, as follows:—

1st.—Divide the Native army into four instead of three, *viz.*, Madras, Bombay, Bengal, and Punjab, and thus diminish the areas of relief and the distances.

2nd.—Reduce the frequency of reliefs; there is no reason why (except for great sickness) a regiment should not remain four years at a station; this would be welcomed, as relief puts the Native soldiers to expense.

3rd.—Increase the strength of the regiments generally throughout the empire, reducing a few to make up the strength of the others, thus saving on the officers and non-commissioned officers.

4th.—Abolish all invalid pensions, except for illnesses or wounds contracted on foreign service, and substitute a voluntary pension after 21 years' service. Under 21 years, give gratuities of 3, 6, 9, and 12 months' pay for 4, 8, 12, and 16 years' service.

5th.—Abolish compensation for dearth of provisions and ration the Native army regimentally, thus doing in peace what you have to do in war.

6th.—Abolish the hutting money and build lines, not on public works department principles, to last till the millennium, but on the principle now in force, limiting the public works department to a fixed grant.

7th.—Abolish wing and quartermaster's contract allowance, and supply what is needful. The contract system is objectionable, and puts commanding officers in a very false position when having to order what they consider necessary, but which officers consider an interference with their perquisites.

8th.—At least a lakh per annum might be saved by allowing commanding officers to give selected and good men furlough on *half pay* for 12, 18, or 24 months—a boon which would be appreciated. If limited to 20 men per regiment, that saving would be effected in Bengal alone.

9th.—Economy also would result from the reduction in camp-followers suggested in answer to question 36.

Captain 'H. D. Hutchinson, 40th Native Infantry.

The suggestions I have already made would undoubtedly increase efficiency, and reduce, or at all events not increase, expenditure. Briefly to recapitulate them, they are—

(1) To have companies always instructed, commanded, paid, &c., by European officers.

(2) To have four European officers, each commanding a double company in peace, and eight, each commanding a single company in war.

(3) To have a system of linked battalions, by which when a regiment is ordered on service it can proceed at once at full war strength of seasoned soldiers, while its linked battalion devotes itself to recruiting.

(4) To have a reserve system, by which at no greater cost than at present there would be a first reserve of men between the ages of 36 and 41 ready and fit for active service anywhere, and a second reserve of men between 41 and 46 well able to carry on ordinary garrison duties which would set free the regular troops.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

(i) I consider that a system similar to the one I have sketched for the Goorkha battalion, keeping classes and races entirely separate, might be adopted with advantage for the whole Native army; battalions being linked and reserves established. I consider that the Native army should be maintained in the highest state of efficiency, and with the most improved weapons and equipment, so as to be prepared to act against European foes, if necessary. Its numbers might be reduced greatly, so as to be completely overawed by the English regiments maintained in India; and it might be relieved by the military police of many duties it now performs, in the way of ordinary garrison duties at unimportant stations, escorts, commissariat guards, &c.

(ii) When Government has decided the strength which, for purposes of safety and defence, it is necessary to maintain the Native army at, I am of opinion that, in order to render the said army efficient, it is expedient to increase the number of British officers; and that fewer regiments fully officered and so constituted as to present a complete war strength, with a power of expansion and renewing by well-constituted sedentary battalions and reserves, would be infinitely more effective than a much larger number of insufficiently officered and weak battalions on the present system; and it appears to me that there now exist many battalions which are never employed on active service.

(iii) Officers should be appointed direct from England to the Native army on a similar system to the one in vogue in former years, and be posted to battalions, and their promotion be regulated in linked battalions by seniority conditional on efficiency.

I note some of the many objections to, and disadvantages of, the present system of officering the army:—

(a) That the staff corps system of promotion tends to unduly augment the senior grades.

(b) That with the dual system which pertains in regiments, of army rank and regimental seniority, the latter taking precedence of the former, heart-burnings, frictions, and differences amongst officers must arise, which are most prejudicial to efficiency, zeal, and discipline.

(c) Field officers in regimental employ are called upon to perform duties not appropriate to their rank and tending to bring the same into contempt.

(d) A regiment is not, as in former days, a home to a young officer, as, appointments being regulated by army patronage, he is constantly looking out to better himself. Moreover, there being so few officers with regiments, social establishments, such as messes, &c., suffer. The tendency of young officers in consequence is to secure houses for themselves by early marriages, which is not advantageous to regimental welfare, as it tends to weaken the ties and interest they take in their regiment and men by substituting stronger interests.

(e) In addition to above, all officers' prospects are unsettled, their regimental promotion insecure, and expectations of advantageous furlough rules and retiring pensions being promulgated always in view. The sooner these points are definitely decided the better.

(f) The system of obtaining officers from British regiments is detrimental to those corps; and I have not in my regimental experience been able to discover any benefits derived from the system. On the contrary, young officers received from British regiments have, as a rule, prejudices against serving with Natives to eradicate; and even then a lingering feeling seems to remain with many, that service in a Native regiment was to them a *pis aller*.

(iv) The pension list of the Native army must be a heavy and increasing charge; but I believe the reserve system would tend greatly to reduce this item of army expense.

The Native army being already as regards *British officers and sepoys* too weak for efficiency, I can think of no possible scheme by which efficiency could be increased *without adding to the expenditure*. But I would strongly urge the following changes in the Native commissioned and non-commissioned grades, *viz.*:—

Reduce—		Rs. A. P.	
3 Subadars at Rs. 100 ...	...	200	0 0
1 Subadar " " 80 ...	...	80	0 0
1 Jemadar " " 50 ...	...	50	0 0
Total 4 Native officers		330	0 0
Add—			
1 Havildar-major and drill havildar	...	15	0 0
1 Quartermaster havildar	...	15	0 0
1 Musketry havildar	...	15	0 0
Increase pay of 40 havildars from Rs. 14 to Rs. 15	...	40	0 0
8 Naiks at Rs. 12	...	96	0 0
Allowance to 8 lance naiks of Re. 1 each	...	8	0 0
Staff allowances, havildar-major and drill havildar Rs. 7 instead of Rs. 5, increase	...	2	0 0
8 Pay havildars, Rs. 7 instead of 5, increase of	...	16	0 0
Rs. 2 each	...	7	0 0
Quartermaster havildar	...	5	0 0
Musketry havildar	...		
One of the naiks to be an assistant to the musketry havildar on an allowance of	...	2	8 0

<i>Add for line-boys as under—</i>				Rs.
20	Boys at Rs. 2	...	...	40
20	" " 3	...	...	60
2	of the 40 to be naiks on Rs. 2 extra each	...	...	4
2	of the 40 to be lance naiks or Re. 1 extra each	...	...	2
1	of the 40 to be havildar or Rs. 3 extra...	...	...	3
Grand total				109 0 0
Obtained by reduction of 4 Native officers				330 8 0
Excess expenditure				330 0 0
				0 8 0

Major F. F. Rowcroft, 4th
Goorkhas.

I confess I do not see how the *true* efficiency of the Native army can be increased without increased expense. I am of opinion that the non-commissioned officers are not sufficiently paid. It seems to me that it was a great misfortune, and an unaccountable error, that the non-commissioned officers were quite overlooked when the increased advantages regarding increase of pay to the Native commissioned officers, and good-conduct pay to the sepoys, and bounty to recruits, were given in Government order of 1st January 1877. The non-commissioned officers of the Native army felt very much being overlooked in the increase of pay. There is no doubt they are the backbone of the army, and the majority of officers of the army are of opinion they are underpaid.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

Yes, several.

(a) One pay havildar to two companies ample, giving him six rupees (at present five for one) a month staff pay.

(b) Dispense with color havildars at two rupees each per mensem; for one per company (eight) would be a saving of 16 rupees a month in each corps.

(c) *Furlough* pay, as before, to the whole army; a man to have only up to two months (commanding officers, or privilege) on full, *i.e.*, working, pay. The granting of the latter, whether on duty or leave, was a grave political error. Whether it can safely be abolished now is perhaps doubtful, and might be dangerous. It is always injudicious ever to make any differences between the Native army and their British officers and commanders, as far as it can be avoided.

(d) Hospital stoppages, as obtaining under Her Majesty's British army; no differences should ever be made between the British and Native soldier, comrades in arms, if avoidable.

(e) Give back to officers commanding regiments the powers they had before of being able to reduce non-commissioned officers to the ranks, or dismiss them and buglers and sepoys, from the service without summary trial. *Allow havildars to be reduced to naiks*, as is now the ruling in this respect for sergeants to corporals in Her Majesty's British army by the last Army Bill.

Lieutenant-Colonel F. H.
Jenkins, Commanding Corps of
Guides.

I think a great deal more attention should be paid to the physical training of the men, especially of the recruits and young soldiers. There should be a gymnasium in every regiment, and I can say from experience that it need not cost the State anything. I do not recommend, however, that Native regiments should be placed under the gymnastic department. This would throw more paper work on the officers and lead to no useful result. The inspecting general could tell, by having the recruits stripped at the annual inspection, whether any attention had been paid to this matter or not.

I am also of opinion that the army is wanting in marching power, especially on rough ground. This is a fault that might be remedied without expense, if the officers had more time to train the men. The officers have too much writing under the present system, and too much attention is paid to making a good show in the returns. There is a good example of this in the musketry. On paper the army shoots very well, but recent experience in Afghanistan and at the Cape leads to the opposite conclusion.

Lieutenant-Colonel J. J.
Boswell, Commanding 2nd Sikhs.

Revise the pension rules, which in their present form encourage malingering after a man has put in thirteen or fourteen years' service. I strongly advocate a graduated scale after fifteen years' service (*vide* answer No. 18).

Government might effect a considerable saving by making it compulsory for Native regiments executing all ordinary repairs to their lines. Extraordinary repairs, such as renewal of timber to roofs, should be borne by the State. At present large sums are squandered by the department public works in annual repairs which with little trouble might be effected by the Native soldier.

Major R. B. P. P. Campbell,
Corps of Guides.

Yes; I have a most important suggestion to make, which I firmly believe would not only materially increase the efficiency of the Native army, but add considerably to its numerical strength; and thus give Government the reserve they want—not of raw recruits or old pensioners, but of trained soldiers in the prime of life. And I also believe, and hope to be able to prove, that Government can gain these advantages without eventually adding to present expenditure.

These results could not be obtained if the system of reserves in England or the Continent is followed.

I can only put forward the outline of my scheme, as I am not sufficiently an actuary to be able to calculate exactly the yearly receipts and expenditure of Government. I call it *my scheme*, as I have never known or heard of any one else having proposed such a one before.

Government would be obliged to make an outlay at the beginning; but I think within two years the expenditure on the army would be very little more than it is now, with the advantage of having a large reserve of trained soldiers ready at hand.

My scheme is as follows:—

1st.—Put aside the idea of a separate reserve for the Native army altogether.

2nd.—Have none but trained soldiers, in the prime of life, under the present regimental system.

3rd.—To have this, every Native infantry regiment in the three presidencies must be raised nearly 48 per cent. above present strength, or 285 sepoy per regiment; and that strength kept up in peace and war, but during peace only 500 sepoy per regiment to be serving on full pay with their colors, the remaining 385 on half-pay, plus good-conduct pay, on furlough at their homes. At the end of every year the men on furlough should rejoin and a similar number take their place.

There are 148 regiments of Native infantry in the three presidencies, making a total of 86,280 sepoy, all serving on full pay. Increasing the strength of the army by 285 sepoy per regiment, the total would be 127,035 sepoy; but having 385 sepoy per regiment on furlough on half-pay, or a total of 55,055 sepoy (*which would actually be the army reserve*), there would remain a balance of only 71,980 sepoy on full pay.

The cost of the present 86,280 sepoy at Rs. 7 per mensem, or Rs. 84 per annum, is Rs. 72,47,520, without having any sort of reserve at all.

The proposed annual cost would be as follows:—

71,980 sepoy	@	84 =	...	...	...	Rs.
55,055 „	@	42 =	...	...	...	60,46,320
						23,12,310
1,27,035 total sepoy =			...	...	...	83,58,630

that is, an increase over present expenditure of Rs. 11,11,110 per annum, *i.e.*, Rs. 20 and a fraction per annum for each reserve sepoy, but with the advantage of having a reserve of 55,055 sepoy—trained soldiers—always at hand, which is considerably more than half the strength of the present army.

If Government consider such a strong reserve unnecessary, they could decrease numbers by only recruiting every regiment up to present war strength, *viz.*, 800 sepoy, and having 300 on furlough on half-pay, plus good-conduct pay. If so, the annual cost would be—

71,980 sepoy	@	84 =	...	...	...	Rs.
42,900 „	@	42 =	...	...	...	60,46,320
						18,01,800
1,14,880 total sepoy =			...	...	...	78,48,120

or Rs. 6,00,000 over present expenditure for a trained reserve of 42,900 sepoy, or Rs. 14 per annum for each reserve sepoy.

Should this scale be also thought too expensive, increase every regiment only by 200 sepoy, equal to 700 per regiment, and have 200 on half-pay, *viz.*:—

71,980 sepoy	@	84 =	...	...	...	Rs.
23,600 „	@	42 =	...	...	...	60,46,320
						12,01,200
100,580 total sepoy =			...	...	...	72,47,520

that is, a trained reserve of 23,600 sepoy for the same money expended on the present army.

The present system of furlough for the Native army must be altered, to make it imperative that Government have the option of placing on furlough as many men *over three years' service* as political necessity may demand (always leaving 500 sepoy per regiment) on half-pay, plus good-conduct pay.

At present one-sixth of strength, nearly 17 per cent. of sepoy, are allowed furlough during the hot season. This leaves 500 sepoy per regiment at head-quarters for carrying on all duties in peace time during the hot weather.

If the system I propose was adopted, and a proper check put upon furnishing orderlies, civil guards, &c., there would be no reason why that number of sepoy should not carry on all duties during peace throughout the year, as any regiment would be capable of being raised to full strength—all trained soldiers—within a fortnight or three weeks at the utmost.

Regiments on the frontier might have 50 more men on full pay for outpost duties, &c.; and at any station where the duty on the Native soldier, owing to sickness or any other cause, was hard, the requisite number of men could be called in from half-pay to ease off work.

Adding so many men to the strength of a regiment would cause a block in promotion and be apt to make men hopeless of advancement. I therefore propose that during peace the Native adjutant,

drill havildar, and drill naik be made supernumeraries of their rank, and that others be promoted in their places. On the war establishment I would increase the Native officers by two jemadars, and the non-commissioned ranks by eight havildars and eight naiks.

The above is the outline of my scheme, which, if adopted by Government, would give them a strong, serviceable, and contented army, always ready for immediate service.

Now for details. The strength of a Native battalion in peace or war should be 1,000 men of all ranks, as a regiment of that strength is quite capable of undergoing a prolonged campaign. Even if it had the misfortune to lose 400 men, there would still remain an efficient body of 600 fighting men to work with. Therefore every regiment should be ordered to recruit up to 885 sepoy.

The Native adjutant, drill havildar, and drill naik should be made supernumeraries of their rank, and others promoted in their places.

Every recruit hereafter enlisted should be made to understand that he is liable to be placed on half-pay, plus good-conduct pay, after three years' service, whenever Government pleases; and that when on half-pay he is as much under the control of his commanding officer as at head-quarters.

Soldiers now serving in the ranks having been accustomed to receive full pay on furlough, would have cause for grumbling if summarily put on half-pay. Therefore it must be explained to them that, owing to the exigencies of the service, they must in future go on half-pay, plus good-conduct pay in their turn, but should receive full pay for the period of furlough they are entitled to under present rules, and half-pay, plus good-conduct pay, for the remainder of the year; and any leave over a month they may require on urgent private affairs beyond their furlough must in future be on half-pay, plus good-conduct pay.

The pay of all men, whether on full or half pay, to be drawn in one muster roll, as at present; and commanding officers should have full discretion in allowing men who have performed their drill and musketry course for the year to exchange from full to half-pay, provided the number on full pay was not exceeded beyond the order for the year.

Natives are very fond of being at their homes; and as this system would really give the men more opportunities of visiting their homes, and for longer periods than the present one, I feel assured it will become very popular among them. If properly put before them, they cannot fail to see that the proposed scheme gives them far more liberty, and that consequently they cannot expect so much pay. The less work, the less pay; but still they belong to the regiment, and have always something to look forward to. I do not anticipate any difficulty on this head. Of course, at first there will be men in every regiment who will wish to hold out for what they have been accustomed to get; but when they come to realize the advantages of the scheme, the objectors will be found to be very few. Commanding officers must be allowed full discretion in dealing with intractable men.

The service of soldiers on half-pay to count towards pension.

Under the existing rules for pension, a Native soldier is very much tempted to malingering after completing 15 years' service, as he then becomes entitled to a pension of Rs. 4 a month, and no prospect is held out to him of any increase by serving longer. The system I propose would, I feel confident, be a great preventive to malingering, as a soldier of 15 years' service would probably be able to live at his home two years out of four on Rs. 6-8 a month, i.e., his half-pay, plus Rs. 3 good-conduct pay, and would think twice before throwing up such an advantage for the sake of being always at his home on Rs. 4 a month. Thus Government would gain by getting many more years of real honest service out of a man before he was finally invalidated.

The arms, clothing, and equipment to be kept at the head-quarters of regiments, as at present, for men on furlough.

Native officers and non-commissioned officers to have furlough on full pay, as under present rules; they being required to help in training, the regiment would not be improved if liable to be placed on half-pay at their homes every other year.

In conclusion, I beg to draw attention to the fact that Government have already incurred most of the expenses in raising the strength of the army by the recent augmentation, and many regiments are now very nearly up to the strength I recommend; so if my scheme meets with approval, now is the time for Government to act upon it.

The above scheme could not be made applicable to cavalry, as the men could not be placed on half-pay and also be expected to feed their horses and keep up syces and ponies.

Government have already adopted the best plan for strengthening a cavalry regiment ordered on service by attaching an intact squadron of another regiment to it, as was done on the occasion of the 9th Bengal Cavalry being ordered to Malta.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

I think the efficiency of the Native army would be greatly increased if the officers and men had more opportunities of habituating themselves to sudden and rapid marches. I therefore suggest that such duties as were prior to 1860 performed by the troops, but now performed by the police, should be again performed by the Native army, such as the guarding of treasure, Government property, and jails, escorting treasure, ordnance, and commissariat stores, and the maintenance of order at outstations by detached out-posts.

Such employment, especially that of detachments and treasure escorts, would accustom officers and men to duties they would be called upon to perform in time of war,—would give them habits of thought and aptness in meeting and overcoming difficulties, give the officers opportunities of acting while young on their own judgment and responsibility, and would restore opportunities, now never existing, for the British officers to become acquainted and on terms of friendship with Native gentlemen and people of the country.

Increase of efficiency cannot well be attained without increased expenditure. This question opens out so large a field for speculation, that the limited time at my disposal for going through these papers will

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

not admit of my furnishing any suggestions as to how the army could be improved while diminishing its expenditure.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

I am asked if I can suggest anything which would increase the efficiency of the Native army.

I cannot. I believe the Native army is as perfect as it can be made. As regards the men and system, I do not think anything can be done to better it; the regiments are good in physique, smart, intelligent, fit for a campaign, faithful and willing. If any regiment is not so, it is the fault of the European officers.

Doubtless some European officers are old and feeble. This may not add to the efficiency of regiments, but the cause should not be used against the system on the army. I might here mention as a cause why many old officers will not take the bonus, *viz.*, the loss of Lord Clive's Fund to the widow. If Government were pleased to grant Lord Clive's Fund with the bonus, many old officers would go at once.

As regards the diminution of expenditure, double rice-money north of the Kistna may be discontinued to those hereafter enlisted, as long as the regiments are within the limits of the Madras presidency.

If a regiment proceeds or is stationed beyond the presidency frontier without their families, then double rice-money must be granted; but should the families be with the men, then only should the single rate be drawn.

To men hereafter enlisted, I would do away with pensions to heirs of men who die on foreign service, and grant pensions only to the heirs of men who die on service or in a newly-acquired territory.

In my answers, I have stated exactly what I believe from my experience as adjutant, as superintendent of police, and commandant, I have not consulted any one on the subject, or taken the opinion of any one. What is now submitted is my opinion, founded on the experience of my service.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

I have no such suggestions to make. The pay of the privates is as low as it could be, and that of the non-commissioned too low. Everything appears to me to be on the most economical footing possible.

Efficiency would be increased materially with less guard duty. The continued *night work* tells upon the strongest constitution after a time, and is one cause of many men being invalided in what should be the prime of life.

I think if clothed more appropriately for a tropical climate, such as that of South India, where there is scarcely any cold weather, the men would be more efficient. The present cloth and sergo uniform is quite unsuited for orientals, and for climates such as we have.

My opinion is that commandants should have power given them to deprive a man of good-conduct pay by one stripe at a time for repeated acts of misconduct. At present a man confined in the defaulters room or solitary cells forfeits pay and good-conduct pay for those days only, but for two or three regimental defaults within a specified time he should forfeit one stripe for six months, or even a year.

I think the new system of education in a Native regiment is too expensive for what is required. The old one went very nearly far enough. If the parents wished for higher education for their children, they paid for it and not the State.

I believe the early marriages the men contract is one reason the Native army of Madras is not so efficient as it might be. The wife's relations come upon the husband in addition to his own; and he has to maintain them, as he cannot shake them off. I think before enlistment every candidate should be distinctly informed that he will not receive permission to marry until he has completed five years' service. He could then please himself about enlisting. The State would benefit greatly by the arrangement, and the man would too.

Major E. Faunce, 14th Madras Native Infantry.

As I have before said, the Native soldier is a man with very strong feelings; a man distrustful of strangers, whom you must know well to command efficiently; a man with a strong spirit of *esprit de corps*. I know it is the fashion even with some officers of Native regiments to think not; but in my regimental service I have made it a point, while exacting duty stringently, to know and be on friendly terms with my men; and I know that they do cherish a strong *esprit de corps*; indeed, though I grieve to say it, I believe it to be the honest truth that in many regiments *esprit de corps*—that soul of the military body—while yet exercising its good influence amongst the Native ranks, has nearly died out amongst the European. I would give many instances of both assertions; indeed gave some in my draft, but omit them, as this paper is already getting too long. For one instance of its existence in the Native ranks, see reply 5.

To what is this to be attributed?

To the constant changes since 1865 in the officers of a regiment, the introduction of strangers from other regiments, from departments, from civil employ, perhaps only a few months' senior, to fill the shoes of officers who had served some time in the regiment might reasonably have looked for. I

know that the reduction of twelve regiments made it necessary to find employment for the officers thereof, and also that a system of regimental promotion is being inaugurated by His Excellency the present Commander-in-Chief; but I speak of what has been, and of its results. An officer had been for many years on the staff under the old system. Under the new he had to vacate in 1871. He went on leave in India, and obtained while on leave furlough to Europe. *After* this had been gazetted, a full vacancy as wing commander arose in a regiment. A field officer of that regiment had been acting for a considerable time as wing commander: was he confirmed? No; the former staff officer, a total stranger to the regiment, who had not served with a regiment for many years, who was gazetted for furlough to Europe, who had not even any regimental uniform when he joined, was given the full vacancy. He joined, remained a few weeks (less than a month I think), and then proceeded to England, taking with him half the allowances, the field officer of the regiment being then again put in to act for him. He drew these half allowances for the period of his furlough, and did not re-join, being provided with another staff appointment. With what heart can men work under such circumstances? Native soldiers with all their faults appreciate justice, even if it be but bare justice, untempered with consideration or mercy. To give them that, you must *know* each man, his antecedents; the why and wherefore his case is favorably or otherwise put before you. If it is given against him, even where he feels justice is on his side, he will contentedly accept the decision of an officer he knows, where he would be a discontented, unwilling soldier if a strange officer had so dealt with him. In the one case he *knows* his officer, and therefore knows he has, though perhaps mistakenly, yet honestly and of himself, come to an unbiassed decision. In the other, he thinks the strange officer, not knowing him or the other party, has been influenced by the superior rank of the other party, or of the person who represented the case with a leaning to him. The Native soldier attaches himself warmly to his officers *if* they are allowed to remain long enough with the regiment for him to know them, and for them to show that they are not only taskmasters exacting a certain tale, but take an interest in him. The first two most essential measures for increasing the efficiency of the Native army is that officers should be permanently posted to a regiment and rise in it, no one being brought in except at the bottom, and in exceptional cases as commanding officer; that they should have no interests outside of it. At present, no sooner is there a vacancy than every one, European officers and Native ranks alike, speculates who is to get it: there should be no doubt. In the Madras army successive systems have been tried with each change in the command of the army. Some one system, even if it be the worst, should be laid down by Government and should be strictly followed. I cannot speak too strongly of the evil done by the lowering of the tone that has resulted from the uncertainty which has weighed heavily on the army for the last fourteen years. The harm done to the interior well-being, the harmony, the camaraderie, the brotherhood, that should exist in a regiment must have, and has, struck the most casual observers (witness the comments of the press); but no one that has not actually served in a regiment does know how little real harmony, how little real good-feeling, does exist, and how little the officers have in common in many a regiment, notwithstanding the stereotyped "yes" in successive annual inspection reports. Were officers able again, as of old, to look on their regiments as their homes, by force of long and intimate association to know each other, then the evil I deplore would disappear; and this is not a mere matter of sentiment, but one with which the efficiency of the army is vitally connected.

Again nearly the whole of the officers of the Madras army are too old for their respective positions. Of the 40 pucca adjutants, only 9 are subalterns.

In Madras the average service on 31st July of the permanent commandants of 31 regiments was 34.91 years: there were nine of and above 37 years' service. It is difficult to state correctly from Army List what is the average service of officers on appointment as commandants; but it cannot be less than 31, probably over 32, years. Such a period passed in India and in a subordinate position does not tend to make a man energetic. Where a younger man would take a pride in instructing his regiment in efforts to make it surpass others, many a man getting command as now at 31, 32 years' service, after the first gloss has come off his personal satisfaction at his new position, is content to sign his pay-bill and do just as little as will pass muster at the annual inspections at which the adjutant is at his elbow to answer the simplest questions. It is notorious throughout the service that there are commanding officers who, from age or constitutional causes, or habits, or incapacity, are quite unfit to be at the head of regiments. Such men do harm to regiments not only in their own time, but perpetrate it by praising men under them who may not deserve it, and who in consequence succeed in time to commands for which they are unfit. I would not limit the number of years an officer is to hold command of a regiment, but make all officers vacate regimental appointments of all kinds at 32 years' service.

There are adjutants and quartermasters who are majors; there are majors, wing officers; and it is a common thing to hear such say, in these or other words,—"I shall never get a command *even* when I am toothless, bald, and imbecile!" What interest can men of 20 to 24 years' service (there are such in Madras) take in their work, holding such positions and with such prospects? They look back regretfully to the days when as boys they commanded companies, and feel they *had* an interest in their work, some stake in the regiment, and a responsibility, which, small as it was, was such as was suited to their rank; and now they have not even that small share.

The pensions are too small to induce men to go; and the system of increasing the amount obtainable under the bonus scheme by so much for every year's service naturally defeats its object by inducing men to hang on "one year more."

The systematized practice of commandants spending the last two years of their service on furlough, or rather of drawing £360 a year command allowance for the last two years spent in England, should be stopped.

The powers of commanding officers as to summary punishments should be increased, and they should be encouraged to hold summary trials which custom with us practically prohibits. The following is cut from page 239 of the blue-book on the "Organization of the Native Army 1877":—

"37. I would here observe that commanding officers in Madras generally decline to avail themselves of the larger power given them by law since the mutiny, by which they can have summary trials on soldiers; and they continue to resort to the old practice of regular courts-martial. The

difference between Bengal and Madras in this respect is striking. In Madras in the years 1872, 1873, and 1874, out of 714 trials, only 10 were by the summary trial; in Bengal in the same period, out of 817 trials, all but 108 were summary; and in the Frontier Force there were but 8 summary trials out of 245. It is difficult to account for the disinclination to resort in cases of crime in Madras to what is here looked on as a valuable adjunct to discipline."

The reason is, I think, that commanding officers have not been encouraged by superior authority to resort to summary trials. That they do not do so is, of course, known; and the fact that their not doing so has not been remarked on by superior authority during the ten years since the Indian Articles of War came into force is naturally accepted as showing that they are not expected to. I look on the power as a valuable adjunct to discipline, but should hesitate to avail myself of it, except under special circumstances; for I should fully expect to be called on in an ordinary case to explain my departure from the usual practice. I remember a case in 1871 where a commanding officer did hold a summary trial and was found fault with by the brigadier-general commanding the district on whomst staff I was, on the ground that the circumstances did not call for such summary action.

The powers of wing commanders as to summary punishments should be largely increased. They—majors, lieutenant-colonels, and even sometimes brevet colonels—have now much smaller powers than I had as commanding a company when an ensign of two years' service.

Commanding officers should be allowed unrestricted and unquestioned power of *selection* in the promotion of all grades, which, whatever the theory may be, is not the practice. A system of selection for the grades of jemadar and subadar, largely modified by seniority, has long been the rule with us; but it was practically promotion by seniority, especially from jemadar to subadar; for till lately it was with the greatest difficulty a commanding officer could get a man passed over, and to do so entail so much writing and so much explanation, frequently a petition (nominally strictly prohibited) to "report on," that many a commanding officer avoided it by recommending the senior man. If the grade of Native officer and the present system of appointment thereto are to be retained, a commanding officer should merely have to send in the name of the man he selects, and not be obliged, as now, to send in also the names of all those he proposes to pass over. It is not always easy to explain in a few words all the little facts which justify the opinion that a man of good character and faithful service, although fit for his grade of naik or havildar or jemadar, has not the qualifications necessary for a higher one. Were men to see that their commanding officers had the unquestioned power of rewarding and promoting them by selection (in all grades) for their efforts to make themselves, and maintain themselves, efficient, it would foster that spirit of emulation which is so desirable, and now so weak and wanting in vitality. A commanding officer's powers as to promotion, then, should be unrestricted in any way; his powers of summary punishment increased; for to command Native troops properly a man must have large powers. Was not this the secret of the success of the old irregular system? If he does not exercise them with discretion, he is unfit for the command of Native troops, and should be unhesitatingly removed.

Why should not havildars and naiks be called sergeants and corporals? In West Indian regiments negroes are. Why should not infantry regiments be called simply "Bengal or Madras infantry," as cavalry regiments are? These seem small, very small, matters, but they emphatically are not. Every soldier knows the force any honorably distinctive appellation, motto, device, nickname even, has. Will any one deny that "Native troops" is generally used slightly?

I venture to say that that has gone a long way towards making young men hesitate to enter the Indian army, and that the slighting feeling with which it is regarded by many would not have been so strong had that word "Native" never been used.

We have *color* havildar, *drill* havildar, havildar *major*: why half-English, half-not? Even the men with us are called privates, not sepoyes: why the distinction in other ranks?

The more you make of a man, the more you foster his self-respect; the more he thinks of himself, the better man he is likely to be; and when a man "thinks something" of himself, he is at least on the road to being a smart soldier. What applies to individual men applies equally to a regiment.

Young officers should not pass into the Indian service through British regiments: it does them no good. They come to the Native regiment discontented with their lot and prejudiced against the service in which they are to pass their lives; they should, as before 1857, join at once on appointment to a commission the particular regiment to which they are posted, and not be collected together in one station.

I feel that I have written strongly and plainly in this reply, and perhaps in others. I do so under a strong sense of duty to the service to which I have the honor to belong, feeling that, having been asked, I should fail alike in my obligations to it and to the Government I serve did I not give expression to what are my real thoughts, which are in substance shared, I unhesitatingly affirm, by at least a large majority of regimental officers. It is with pain that I write as I have done of a service in which I have spent 25 years of my life; but these truths are now longer secrets of the service; it is no longer possible to *laver son linge sale-chez soi*, and those that are most loyal to the service will recognize that its best interests require that the plain truth should be known to those who can apply the remedy.

The only grades who obtained no advantage while serving from the benefits granted to the Native army generally on 1st January 1877 are the most hardly worked—the havildars and naiks. It would be politic to apply a small portion of any savings made in reorganization to the increase of their pay from Rs. 14 and Rs. 12 respectively to Rs. 15 and 14. Only Rs. 2 1/4 per regiment per man would be required, even if there be no reduction in the number of those grades. At present a havildar, which rank is not reached till about 15, frequently more, years' service, receives only 1/4 more than a private of that service with three badges; a naik only Rs. 2 more. In former days, this was compensated for by the all but certainty of promotion to the commissioned ranks, which certainly it is to be hoped is gone now.

The men marry too young, and have consequently from their very entry into the service a tribe of dependants and relations of sorts, partly or wholly to support, or, what amounts to the same thing, who drag them long visits. Every effort is being made under the orders of His Excellency the Commander-in-Chief to mitigate the evil; and the men, who from custom and the force of caste

obligations are afraid to refuse to receive such people, secretly rejoice thereat; but there seems no good reason why it should not be a condition of future enlistments, that men are not to marry till after five years' service.

Troops should be more concentrated in large cantonments, and all single battalion stations that are not absolutely necessary abandoned. They are bad both for officers and men, as every one knows and admits. Regiments should not remain in any one quarter more than four years as an extreme limit. The period used to be three years, now it varies from five up even to ten (see reply 7). Regiments should march on relief, not move by rail.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

The present system of granting an invalid pension to Native soldiers after a service of fifteen years is most detrimental to efficiency, and very costly to the State, and should therefore be abolished. The evil results of this pension are two-fold; as, in the first place, the knowledge that men can be invalided, if they become inefficient, after 15 years' service, may tend to induce a certain laxity on the part of commanding officers in the selection of their recruits. And, in the second place, it leads to malingering among the men, who often begin one or even two years before they have attained the required service to prepare for invaliding by feigning illness, or endeavouring to prove their unfitness for further service by an assumed inability to perform their duty, which, if judiciously carried on, secures for them the co-operation of the commanding officer in their removal from the regiment. There does not appear any reason why the State should give a pension for so short a service as fifteen years, nor can it be admitted that a soldier who has failed to give the full amount of service has any claim on the State for a life-pension. The present system is, in fact, a premium on bad service, as a sepoy, unless recommended for the superior pension for specially good service, would only, at the expiration of 32 years with the colors, receive the same pension as the man who had left the army as an invalid 17 years previously. The fact that in the past four years 4,861 of all ranks in the Bombay army have obtained invalid pensions, and only 306 have been pensioned on the completion of the full period, shows to what an extent this method of quitting military service is availed of. A further proof of this is found in the fact that nearly 18,000 men, or three-fourths of the whole army, are under 15 years' service.

Brigadier-General A. B. Little,
Commandant 25th Bombay
Native (Light) Infantry.

I have no suggestion to offer, for the simple reason that I think extra expense must attend any increase of efficiency.

Colonel S. Edwards, Com-
manding 2nd (Prince of Wales')
Grenadier Regiment Bom-
bay Native Infantry.

The suggestions contained in the previous answer would, in my opinion, increase the efficiency of the Native army without adding to its expense.

The formation of local battalions would permit of a decrease in the numbers of the regular army throughout India. By the substitution of a regiment or brigade list promotion in the place of the staff corps, the necessity of employing highly-paid officers for performing the subordinate duties in regiments would be got rid of; also a very great saving in the item of colonel's allowance would be saved. All officers obtaining employment in the civil branches of the administration should be seconded for two years; and if permanently employed, should be placed on a separate list; their pay, pension, and rank being regulated by the rules and debited to the accounts of their departments.

A saving in expense and an increase of efficiency would be obtained also by the compulsory retirement from the regular army of officers who fail to obtain to a certain rank in a given time; these officers being employed in local battalions or in other posts under Government.

The surplus of field officers now in the army might with advantage be employed in this manner.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native
Infantry.

The one thing required to complete the efficiency of the Native army is, I think, an increase in the number of the European officers.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

I append some suggestions* drawn up by the 2nd-in-command of this regiment, with my remarks attached.

I do not wholly coincide with that scheme, but send it as it professes to be economical; though I question this.

Colonel R. Mallaby, Command-
ant 13th Bombay Native In-
fantry.

I consider the present system of clothing the men utterly unsuited to the duties they have to perform, whether in peace or war; and I believe it is one of the causes which send comparatively young men to the pension roll. I would do away with all cloth clothing except the overcoats, and substitute a strong *khaki* drill coat, something after the fashion of a loose Norfolk coat, Zouave trousers and puttees.

The provision of these might be left to commanding officers according to scaled patterns, or Government might enter into contracts with such establishments as the Muir or Elgin Mills at Cawnpore. An entire suit of such clothing, including the puttees, can, as I have ascertained,

be obtained from the former establishment for rupees five and annas ten, and I am satisfied for less under an arrangement with Government. I sent up to His Excellency General Warre a pattern, such as I propose, and it has met with his approval; and should the Commission think it worth while, I could submit the pattern for their inspection.

My proposition would involve the abolition of the clothing agency and its establishment, as the cloth clothing for the European troops could be transmitted direct from Pimlico, through the commissariat department, to the commanding officers of regiments.

If my suggestion is accepted, the expense of a clothing agency, and the loss by exchange for cloth clothing of the Native army would be saved, and Native industry encouraged; and a portion of this saving devoted to any additional expense in providing an entire suit of drill *khaki* clothing yearly.

The Native soldier is called upon to serve in climates where the difference of temperature within two or three days may be from 40° to 50°; he would be able to put any amount of under-clothing under the dress I propose for him, or he may have little or nothing under it, so as to suit these changes.

I think the introduction of two pioneers per company would be a very valuable addition to a regiment. These men should go through the same course as the sapper; he should be by trade a carpenter, smith, leather worker, stone mason, or rope maker. These men would be invaluable on service, for entrenching, building, or bridge making. The labor being found by the regiment, their equipments might be taken from the engineer park, and the expense on that score could not be considered as additional to the general expenditure of the army. On passing the sapper's course, I would make these men lance nails to place them above the privates; and they might be employed in working in and superintending regimental workshops.

I would advocate the introduction of regimental workshops, which with the above aid would be conducted in regiments without any expense to the State.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

I would give power to the commanding officer to dismiss any man whom he considered incorrigibly bad, or one whom, when young, he did not think would turn out an efficient soldier. He should also have power to reduce a non-commissioned officer one grade without the intervention of a court-martial, and his powers of punishment should generally be increased. I think also that the number of Native officers in a regiment might safely be reduced without the least detriment to its efficiency. Should the four double-company system be adopted, I should have only five subadars and five jemadars, instead of eight of each class as now; one of the former being subadar-major, and one of the latter jemadar adjutant.

Colonel A. Carnegie, 21st Bom-
bay Native Infantry.

I beg to attach a small pamphlet* published by me in 1873 while holding the appointment of assistant adjutant-general at the headquarters of the Bombay army.

Since that time I have commanded the 21st Native Infantry or Marine Battalion for a period of five years; and the only alteration my more intimate acquaintance with the working of a Native infantry regiment leads me to suggest is the retention of the Native adjutant, whose presence I now consider absolutely necessary in a corps.

Colonel J. Fairbrother, Com-
manding 22nd Bombay Native
Infantry.

Not without adding to expenditure. The present equipment might be changed with advantage, and brown leather belts introduced; also a short rifle and sword bayonet and short rifle drill adopted in place of the long, the latter being too rigid for the Natives of India. The first-named admits of more freedom of action.

Lieut.-Col. O. V. Tanner,
Comdg. 29th Bombay N. I.

Decrease Native officers to one per company, and increase European officers.

27. Would there be any advantage in changing the titles of Native commissioned officers from "subadars" and "jemadars" to Native captains and lieutenants?

Colonel J. Duran, Commanding
27th Punjab Native Infantry.

None that I can see.

Colonel H. S. Oldard, Com-
manding 24th Bengal Native
Infantry.

None whatever that I am aware of. On the contrary, I think it would be disadvantageous.

Colonel T. Boisragon, Commanding 80th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 89th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal N. I.

Lieutenant-Colonel P. Harris, Commanding 11th N. I.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 46th (Rattay's Sikhs) N. I.

Major R. S. Robertson, 4th N. I., Offg. Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

I propose to do away with the grade of jemadar. The British officers (*vide* answer 4) would be the captain (even though he may be a lieutenant in the army), and the subadar might be called his lieutenant. I daresay it would flatter the subadar; but I am not sure it would not lead him to imagine his pay was going to be increased to keep up the dignity of the rank.

I think it would be a pity to throw aside the old time-honored designation of subadar and jemadar.

No; no advantage whatever that I can see. On the contrary, I am of opinion that it would only tend to confusion to change their present designations.

No! If anything, the change would be for the worse.

None whatever. At most it would be but a change in name, and not at all an appropriate one.

No; I think the present titles most suitable.

I see no advantage in altering the present titles of the commissioned grades.

None; any such change would be appreciated by few. All Native commissioned officers should however, if in uniform, be saluted by European as by Native soldiers.

I consider the change proposed most undesirable. The titles suggested are, I think, meaningless and very clumsy. They would convey no idea to the Native mind, and it would be a long while before the proposed titles would come into popular use. At present, every villager knows that the titles of subadar and jemadar carry respect and pay; and this is of great use in recruiting.

I do not think there would be any advantage in changing the titles of Native commissioned officers from those which have existed for so many years.

Those titles have become honored, not only in the Native army, but amongst the peoples of India. It should be borne in mind that all changes which are not justified by actual expediency are unwise in India, especially so in the Native army.

No advantage; and in my opinion would be an useless change, creative of confusion, and doing away with time-honored and well-known designations, understood by the home friends and relatives of the Native soldiers, to whom the new titles would be mere sounds only.

No; the present titles are recognized and bear weight in the men's homes, giving them standing and position when on leave or retired.

I do not see any advantage in the proposed change.

I think not.

No; certainly not. The change would not be appreciated or understood by the Natives, who are conservative enough to prefer the titles which are understood and respected by their kinsfolk. *Subadar*, the former title of the governor of a province, and *jemadar*, the holder of a rank or place, convey a tangible meaning to the common Native mind where Native captain and Native lieutenant would be meaningless; moreover, the Native would never use the affix *Native*. It would be *subadar captain* and *jemadar lieutenant*, as the Native adjutant is now turned into *jemadar adjutant*. Moreover, it might create inconvenience at times where the Native captain might consider himself superior to the British sub-lieutenant. I would leave well alone.

None whatever.

As I would only have one subadar with each company—*vide* answer 4, paragraph (2)—the titles of lieutenant and captain would be inappropriate; but they might be given as honorary titles, or on elimination of Native officers from regiments.

None whatever—English titles should be kept for English officers. Even the senior Native officer must always rank below the junior English lieutenant. Calling the former a captain would therefore be anomalous, to say the least of it. In some cases it might even prove prejudicial to a proper feeling of subordination on the part of a proud old Native *captain*.

Major F. F. Rowcroft, 4th
Goorkhas.

No particular advantage beyond that the change of names to Native captain and lieutenant would be very popular with the Native officers of the Indian army; but I am of opinion that it *would* be a great advantage to abolish the names and titles of *sepooy*, *naik*, and *havildar*, and substitute in their stead the names and titles of *private*, *corporal*, and *sergeant*. This would be a popular measure with the non-commissioned officers and rank and file of the Native army.

Colonel R. Blair, 3rd Native
Infantry.

No advantage in changing the present title of Native commissioned officers, but I think that havildars, naiks, and sepoys might with advantage be changed to sergeants, corporals, and privates. The title of captain to a subadar would apparently place him above an European officer of subaltern rank.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

Yes; I think, knowing what the Native is, it would be a political advantage terming subadars captains and jemadars lieutenants. But I would assuredly place them more under the power of their commanding officers than they are now by altering the terms of their pay, *viz.*, so much for his rank, the balance command pay, which he should only receive, or be deprived of, by his commanding officer, whether he could or would command his company properly. I would also undoubtedly make him pay for his own uniform and accoutrements, &c., &c. It should be beneath their dignity to receive compensation for dearthness of food. The subadar-major should not receive his Rs. 50 a month staff unless actually performing the duty, and as obtains for every other rank excepting in one or two others which should also be abolished, excluding color havildars which are honorary.

Lieutenant-Colonel F. H.
Jenkins, Commanding Corps of
Guides.

I have never heard any Native officer express a wish to this effect. It seems entirely an English idea, as subadar, ressalidar, jemadar, are considered by the people to be honorable titles. Native captain and Native lieutenant are very awkward expressions. You could not use them in calling to a man, or even in speaking to him. Besides, I think the change would be exceedingly mischievous, because it would give rise to questions regarding the relative rank of British and Native officers.

Lieut.-Col. J. J. Boswell, Com-
manding 2nd Sikh Infantry.

I do not think there would.

Lieut.-Col. B. R. Chambers,
Commanding 6th Punjab Infy.

I don't think any advantage would be derived from the change.

Major R. B. P. P. Campbell,
Corps of Guides.

None whatever that I can see.

Major A. G. Ross, Command-
ing 1st Sikhs.

None whatever.

Colonel A. Jenkins, Command-
ant 2nd Madras Native Infantry.

The titles of subadar and jemadar are the most appropriate titles that can be given to Native officers; for Native officers are, and should be, subordinate to the most junior of British officers.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

There would be no advantage in changing the titles. On the contrary, I consider it preferable to keep a distinction of titles between the ranks of the European and Native commissioned officers in a regiment. I do not think that the Native commissioned officers would place much value on the change of titles, though at first perhaps the novelty of the change might please them.

Colonel L. W. Buck, Command-
ant 20th Madras N. I.

No advantage.

Colonel W. A. Gib, Command-
ant 25th Madras Native Infantry.

I can see no advantage in the suggested change; but perhaps the Native officers themselves might be gratified by it.

Lieutenant-Colonel F. H.
Tyrrell, 37th Madras Native
Infantry.

I see no advantage in the proposed change. Under the present system when a senior subadar ranks lower than a junior lieutenant, I think the proposed change would only breed awkwardness.

Lieutenant-Colonel P. A.
Carnegy, 39th Madras N. I.

I think not.

Major E. France, Commanding
11th Madras Native Infantry.

No; the reasons given in previous reply (clause ix) for changing the titles of havildar and naik do not apply, there being, strictly speaking, no analogous positions to subadar and jemadar in a British regiment.

Brig.-General H. F. Brooke,
Adjutant-General, Bombay Army.
Brig.-General A. R. Little,
Commandant 25th Bombay Na-
tive Light Infantry.

I prefer the present designations.

No; I do not think any advantage would be derived by giving the English title. The old one would always be used.

Colonel S. Edwardes, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

Colonel W. Bannerman, 4th Bombay Rifles.

Colonel G. W. Hanson, Commanding 5th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner, Comdg. 29th Bombay N. I.

No advantage whatever, unless the whole of the Native army could be taught to speak and think in English. It would lead to great confusion of ideas as well as of appellations.

I would retain the present titles of subadar and jemadar.

In my opinion the present titles of subadar and jemadar are preferable to those of Native captain and Native lieutenant, as the latter might lead to misunderstandings as regards the position of Native towards European officers.

None that I know of.

I can see no advantage whatever, nor do I think the Natives amongst themselves would use other than the present titles. I think the titles of the European and Native should be kept distinct. Absurd though it may appear, the ill-disposed might suggest that it was an attempt to christianize them.

None whatever. These titles are well understood, and are respected by the Indian public, whereas the English titles would not be understood outside the army.

I can see no advantage from such a change, except that I believe it would be appreciated by the Native officers themselves. The disadvantage, I fear, would be a not unlikely misunderstanding arising from a Native captain considering himself senior to a British lieutenant. I consider it of the utmost importance that no rank conferred on a Native officer should give him precedence in any way over even the most junior British officer.

No; I consider there would be a great disadvantage. The pay, pension, and rank of the Native officers is quite sufficient for all the use they are, or even likely to be; besides which I believe great harm would be done by giving him the same rank, or even the name, as a European officer. "Captain Ramnak Pandnak" and "Lieutenant Brown" would not do. Also a question of pay might arise, and cause great jealousy, if not positive mischief, and which the Native papers would be certain to take up. Captain Jones drawing according to one scale, and Captain Zabardust Khan according to another. The birth, education, ideas, surroundings, and general training when young of the Native officer are so very different to that of educated English gentlemen, that it would never answer to bring them together on an equality. If they are, the only result will be lowering the European, and failing to elevate the Asiatic; but I go further, and say my belief is such a course would make the Indian military service unpopular in England, and the loss to the service thus sustained would be considerably more than could or would be compensated for by the free admission of Natives. I look upon the Native officer as useless, except as an incentive to the non-commissioned officers and men to behave well and try to gain the prize of their service—namely, promotion to the commissioned grades.

None whatever.

28. Could the practice of appointing young Native gentlemen of good family to direct commissions be employed to a greater extent than at present?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Colonel H. S. Obbard, Commanding 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

I think not without giving rise to much disappointment and discontent, and as it is, it rests in a great measure with commanding officers to introduce few or many cadets into their regiments.

Yes, I would gradually increase the number to half, not more, and care should be taken that they are really of good family and fit for military service. Opinions of civil and military officers may vary much on these points.

With British officers to command companies, and by doing away with the grade of jemadar, I should not recommend more than four out of the eight Native officers to be filled by direct commissions. In class regiments, even two out of eight would be sufficient to set examples to the rest as to what is expected of Native officers raised to the position of Native gentlemen. If there are to be the present number of eight subadars and eight jemadars kept up, and no British officers to command companies, then I would have the eight subadars held by direct commissions, and promotion from the ranks confined to the grade of jemadar.

Colonel E. Dandridge, Commanding 49th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

I am of opinion that the present system will not answer in the infantry. Before being appointed to a direct commission, the young gentleman should undergo at least two years' training at a military college, where he should also be required to learn English. Without much expense a military class might be formed at the college already existing at Bonares, Agra, Delhi, &c.

Yes, I consider that the system might be largely extended, but to do so the Native gentlemen so appointed should first be required to undergo a course of education in a military academy to be established for that purpose for a fixed period, the object being to teach them many habits and give them a professional training.

Before receiving their commissions, they should be required to pass a qualifying examination. The academy should be a self-supporting institution.

But then there seems to me to arise a great difficulty. A young man of good family, intelligent, and with any aptitude for his profession, after passing through this academy with credit, received his commission, and is in due course gazetted to a regiment as a jemadar. In a few years, and while probably still a young man, he might rise to the highest grade in the Native commissioned rank, that of subadar-major. But what beyond this can he aspire to? And is it probable that a man of such qualifications would be satisfied to remain all the rest of his military career without hope of further advancement?

I fear he would soon become dissatisfied at the prospect, unless something else could be found for which his qualifications suited him, in Government employ, where he could hope, while capable of serving efficiently, to rise to something more than the subadar-majorship of a regiment on Rs. 150 per month, even with the prospective pension after 32 years' service, of Rs. 50, plus the brevet pay, i.e., staff pay of subadar-major, or in all Rs. 100 per mensem.

Undoubtedly; but unnecessary in the infantry, if commanding officers will promote more by merit and less by seniority. The commissioned grades are the prizes of the service; it would be a pity to reduce greatly the chances of attaining them.

Certainly not more than one-fifth of the Native officers in an infantry regiment should be direct commissioned officers.

No such direct appointments have been made in the 11th Bengal Infantry. The talukdars of Oudh do not appear to care for service in the army. It must not be forgotten that, if many such appointments were made, one of the chief inducements for men to enlist would be taken away, *viz.*, the hope of rising to the commissioned grade.

I do not approve of the system.

As regards the commissioned grades, I would advocate the establishment of a military college or school in connection with one of the colleges now in existence, and that cadets of the college, who should be selected from respectable families, should obtain commissions direct as Native officers.

I would not fill up above one-fourth of the appointments in this way, as I think it would greatly dishearten the regiment. Many of the men of this corps are of very fair Rajpoot families, and it is for the sake of getting their commissions some day that they serve. Once let them think that it is almost impossible to rise from the ranks, and an inferior stamp of men will enlist.

Not in the infantry. I have seen none to equal the good officer promoted for merit.

The practice gives rise to much discontent, and is unfair to the men of a regiment.

Moreover, the young Native gentlemen are apt to have far too great an idea of their importance, and are not so alive to their duties, &c., or amenable to discipline as the trained seasoned man who has honorably worked his way to his commission.

I don't think so; neither do I think it altogether desirable. I speak from experience. Formerly I was a great advocate for the practice. We have four men of this class in the 21st Punjab Native Infantry, *viz.*, two subadars and two jemadars. The two subadars entered the service as subadars in 1857. One, a Sikh, belongs to one of the best Sikh families; he is at present subadar-major of the regiment, and is contented. The other is a Malikdin Kheyl Afridi, and belongs to a family who have always been well-disposed to the British Government. He has always kept his company well together, and did good service during the second expedition into the Bazar Valley. As I have stated in my answer to question 28, the subadars of 1857 have but little chance of being admitted to the Order of British India.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel P. B. Norman, Commanding 21st Punjab Native Infantry.

The subadar knows this; he sees no prospect of any further advancement, and would gladly leave the service, but cannot afford to throw up 22 years' service.

Of the two jemadars, one, a Malikdin Kheyl Afridi, is son of Futteh Khan, who did good service in 1818 in the defence of Fort Attock under Lieutenant Herbert, and afterwards distinguished himself in the expedition against the Afridis of the Kohat Pass in February 1850. This jemadar joined the 24th Punjab Native Infantry as a jemadar in 1873: he is a particularly smart officer, and during the second expedition into the Bazar Valley rendered very important service to the political officer, and was mentioned in Lieutenant-General Maude's despatch. Since then he was mainly instrumental in apprehending a man of the regiment who had deserted carrying off two rifles. The jemadar constantly complains to me that he sees no prospect of advancement, and once asked for his discharge. I see no prospect of being able to promote him for some few years. I do not, however, think he cares so much about promotion to subadar as he would for some honorary title and a decoration.

The other jemadar is a Dogra of good family, and is an excellent young officer: he joined the regiment in 1875.

It will have been noticed that the only Native officers who have joined the regiment as Native officers since the mutiny are these two jemadars—one an Afridi, the other a Dogra. There is a company of each of these classes in the regiment, and advantage was taken of there being no havildar of these classes who could be promoted to jemadar. But if an attempt had been made to bring in a Sikh or a Punjabi Muhammadan gentleman in the same way, very great discontent would have been caused, owing to there being a number of havildars of these classes qualified for promotion.

To sum up, I am of opinion that very great discretion must be exercised in appointing young Native gentlemen to direct commissions; otherwise, great discontent will be caused among the senior non-commissioned officers. I am also of opinion that some better prospects than now exist should be held out to Native officers in view to making those who have gained their commissions early more contented.

Yes, I think it could; but I think more discrimination might be exercised by civil officers and others in recommending young Native gentlemen for enrolment on the Adjutant-General's list of candidates for commissions. The mere fact of a young Native gentleman having passed a series of successful examinations at Government colleges does not of itself constitute him a fit or likely person to become a Native officer.

The men we want as Native officers are those of a martial spirit, and men who have, if possible, family traditions of a military character to uphold and perpetuate.

This practice is better adapted for providing Native commissioned officers for cavalry than for infantry regiments, excepting those in which there are companies of Punjabis or border-men. I would not recommend the practice being too largely employed, as liable to damp the ardour and emulation of the non-commissioned ranks.

There are already I believe more candidates for direct commissions on the Adjutant-General's list than the demand for them. The introduction of a direct commission now and again is an advantage, and commanding officers can always obtain one now when required. To make the practice more general would be to deprive many trustworthy and deserving men who have steadily worked through the lower grades of the great prize of the service. Promotion to Native officer is the only inducement for men of any ability to enter and continue in the service.

I think it could: a small percentage of vacancies in the commissioned grades might be filled up in this way, but its extensive introduction would create discontent.

I think not in Sikh infantry regiments.

Yes; I would suggest that every fourth vacancy be given direct; and I would couple it with the condition that the candidate bring with him fifty qualified recruits: this would give him a position in the regiment now wanting to direct nominees, and ensure a better status.

I think it might. It should be a *sine quâ non* that the candidates really are of good caste and influential family. A great deal must depend upon circumstances and upon commanding officers.

I think not. This system must interfere with promotion from the ranks already too slow, and should only be resorted to when

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native
Infantry.

Lieutenant-Colonel G. C.
Rowcroft, 36th Native Infantry.

Lieutenant-Colonel F. M.
Armstrong, Commanding 45th
(Rattray's Sikhs) Native Infantry.

Major R. S. Robertson, 4th
Native Infantry, Officiating Assistant
Adjutant-General, Allahabad
Division.

Major R. A. Waughope, 14th
Sikhs.

Major A. C. W. Crookshank,
82nd Pioneers.

Captain H. D. Hutchinson,
40th Native Infantry.

Major A. Batty, 2nd Goorkhas.

there is no non-commissioned officer in the regiment fit for promotion. The ranks of the Native army unlike to British line are oftener recruited from the more respectable classes. The sons of distinguished Native officers have been, and still are, only too proud to be enrolled in the ranks of the regiment in which their fathers have served all their lives and made their name. This should be encouraged, and direct commissions made the exception. We would be very glad if it was customary for the middle classes in England to take their places in the ranks of the British army. Why discourage the custom in India where it has always prevailed and answered so well.

I trust no direct commissions will be given in the 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

I think it might be with regiments of Poorbeens, or in those regiments in which there are a large number of Sikhs and Pathans; but this practice would be utterly unsuited to *Goorkha regiments*, because the stamp of men who would come under the denomination of "young Native gentlemen" would be men of *high caste*, such as Brahmins, Khuttries, or Khuss Thappas (spurious Thappas). The very men commanding officers of *Goorkha* regiments do their utmost to keep out of their regiments. High caste Native officers in *Goorkha* regiments would give an impetus to *caste prejudices*, an evil to be greatly deprecated.

Colonel R. Blair, 3rd Native Infantry.

I am not aware how the system has answered, as no one has been appointed to this regiment.

Colonel H. Boisragon, Commandant 4th Sikhs.

It could of course, but I do not deem it advisable politically, though undoubtedly it would improve corps. Without doubt; if it were not from a *financial* point of view, the Native officers would be best abolished entirely, there being no question that British officers are eminently superior in all respects, political and military, excepting the financial. The point to be considered is how much more difficult would have been our position during the mutiny of 1857 if the Native officers had proved themselves as good leaders as European officers. What has happened once may again. Subadars and jemadars were no more true to us than any of the other grades; their pensions did not make them more faithful to us.

Is it hoped that Native gentlemen, having a greater status in the country, more to lose and gain, would be more faithful to us? I doubt it in any *over-pressure*.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

No direct commissions have been given in the Guides, because we have had men of good family in the non-commissioned grades and in the ranks. Young Native gentlemen have often very unsoldier-like ideas. Some of them have told me that they considered it disgraceful to clean a horse, to stand sentry, or to learn the use of their weapons in a public place. It must be very hard for good soldiers to have people of this sort put over them. It might be useful to know the state of feeling in regiments when many direct commissions have been given.

I do not think it would be advisable to do so, as it would stop regimental promotion and thereby create discontent.

Lieutenant-Colonel J. J. Fowell, Commanding 2nd Sikh Infantry.

I do not think so, unless a military school was formed for young men of this class where they could go through a course of training and military education before joining the army. A military school of the sort would deter idle young men from seeking commissions, and it would add very much to the efficiency of Native officers who entered the army with direct commissions.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

The power and influence of Native gentlemen among the peasantry has faded away, and consequently there are very few young men of good family fit for commanding soldiers. An Indian Addiscombe or Sandhurst is much required. I do not believe one quarter of those now appointed to commissions turn out well.

Major R. B. P. P. Campbell, Corps of Guides.

I think so. Of course it is not popular with those who rise from the ranks and look forward to the commissions themselves. Many of the rolls of candidates for direct commissions, which I have seen, show young men awkward in manner, seemingly soft in habits, and more up in an inefficient kind of Persian than good at exercises and exposure and hard work. If young men of family can be got who are not dissipated, and who are willing to *soldier*, and who are active and given to out-door work and love *arms*, then I think they should be employed as much as possible.

Major A. G. Ross, Commanding 1st Sikh Infantry.

I know no Native gentlemen of good family whose sons would enter the army in the subordinate positions of subadar and jemadar. Such persons as have expressed to me wishes that they could enter the army by direct commissions, though the sons of wealthy men, are not of better family than many now in the corps, and would, were they subadars or

Major A. J. Smith, Commanding 12th M. Native Infantry.

jemadars, carry no more influence for good than their caste-men in such rank do now.

I therefore see no advantage in withdrawing the prizes of the commissioned ranks from the Native ranks of a regiment to grant those commissions to unknown and untried men. On the contrary, I feel it might lead to the great disadvantage of the regiment and of the State.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

No such appointments have ever been made in the Madras army. There are very few of the class desired that could be obtained for appointment to direct commissions in the Native army, and I think it would be found that young men of this class, who have been brought up in ease and idleness in their own houses, would be so elated by being placed in such positions, that their example would be more conducive to evil than good in the regiment, and their want of training for military duties would render them useless in their rank as Native officers. I am not sure that men of this class could be depended upon in time of mutiny or insurrection.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

Not feasible in Madras; there are no men of the required stamp in existence; even if there were, I do not think they would be an improvement on our present Native officers.

The Native officers in Madras regiments are quite intelligent enough, and are well suited to the interior economy. The present men have been all their lives in the regiment, and the ancestors of many have been a century in the service.

In Native regiments *nothing* can go on without the knowledge of the present Native officers; the Native officers are bound to Government in many ways—in ways which young gentlemen would not know more of than the European officers do. From tradition and the services of their forefathers the present men inherit a spirit which young strangers would not possess. Out of sixteen Native officers, fourteen are descendants of men who were in the regiment eighty years ago; the present men have eaten the salt of Government from their birth. They look forward to the same to their death, and the same for their children. The outcry for young men is a mistake; all are mercenaries. On the present ones Government has a hold which it could not have on the young gentlemen.

I would not touch the present system; indeed, I am averse to having younger men than we now have.

Regiments under the present system and Native officers are as good as it is possible to make them. If a thousand different systems are tried, an improvement on the present system will not take place; regiments are good in garrison, good at drill, ready at a moment's notice to answer any call, and I believe, if the opportunity was given, would fight well. I have seen but little service with them, but the little I have seen would give me confidence to go on any service with them with the present Native officers. I know many think there should be more European officers, and that our present Native officers are not of much use. I am of a different opinion after 35 years' experience with sepoys.

Colonel L. W. Buck, Com-
mandant 20th Madras N. I.

Colonel W. A. Gib, Commandant
25th Madras Native Infantry.

I have not any experience of the system.

This has never been done in the Madras army. Its adoption is unfair to the Native officers in a regiment, as it stops their promotion, and it must be very distasteful for that reason in the corps in which it has been introduced. As a matter of policy, I think it is a mistake. The system should be tried in a corps in which the other system, *viz.*, rising from the ranks, has been abolished. The two systems should not be adopted in one battalion.

Lieutenant-Colonel F. H.
Tyrell, 37th Madras Infantry.

It never has been done, and I do not think it ever could be done in the Madras presidency.

The Native gentlemen of good family in the south of India (not excepting the *Musalmauns* of Hyderabad and Arcot) are too timid and effeminate to ever make good soldiers, even if they could be induced to enter the army.

Lieutenant-Colonel P. A.
Cairney, 39th Madras Native
Infantry.

I am not aware that this has been attempted yet in the Madras presidency. If done cautiously, and the proper class of Native gentlemen could be induced to join, I think it would tend to raise the Native army greatly in the estimation of the people and by bringing the two races into closer communion would tend to increase loyalty on the part of the Natives.

Major E. Faunce, Command-
ing 14th Madras Native Infantry.

It has never been tried in the Madras army. If Native officers are to be retained to appoint men of good family, and if education would undoubtedly add to the efficiency of regiments, but objections that have often been urged to the measure on political grounds are of very great weight. Moreover, such men would be content while young, but would they as they grew older continue content to remain in subordinate posi-

tions all their service? I think not. Would they not become a dissatisfied, discontented class; and the source of danger such classes always are. If companies are ever again to be commanded by European officers as is earnestly to be hoped, I would do away entirely in Madras with Native officers, giving in compensation a slightly increased pay and pension to havildars generally, considerably higher to the regimental havildar major and color havildars. The general unpopularity of the measure is much more than doubtful, and would be swallowed up in the immediate advantage of the many. To appoint men to direct commissions is doing practically the same thing as far as the interest of men serving are concerned. The pay of 16 Native officers would, with subadar-majors and Native adjutants' allowances, amount to Rs. 1,147-8 per mensem.

Since this arrangement was sanctioned, only one instance has occurred in this army of a candidate offering himself for a direct commission, and he refused to enter as a jemadar in a cavalry regiment, saying that such a position would be degrading to his dignity, and that the commission of resaldar was the lowest he could accept.

No case has come to my knowledge where a young Native of good family has entered a Native infantry regiment (Bombay), and no application has ever been made to me by one to enter mine, and I have never met one I should like to have appointed to my regiment by a direct commission.

Such young men might like to join cavalry regiments, but I do not think they would like infantry.

I can offer no suggestion as to how the practice can be extended.

I am not in a position to give an opinion on this point, as I am not aware of any case in the Bombay army of a Native gentleman having been appointed to a direct commission.

The early training and mode of life of the generality of Native gentlemen is not calculated to imbue them with military aspirations so as to make them prefer the hardships of a campaign to the ease and luxury of the lives they usually lead.

I am of opinion that few indeed, if any, Native young gentlemen of good family would be found in the presidency who would care to accept a commission in a battalion of Native infantry.

I have not seen this system tried and do not think it advisable; the present non-commissioned officers with a fair prospect of promotion before them would naturally be much disappointed at finding the prizes they had themselves expected given to others. Moreover, I much doubt whether young Native gentlemen of good family would care for service in the infantry.

This arrangement is more applicable to cavalry regiments. Young Native gentlemen don't care to run about on foot, nor do I think it desirable to take away this object of ambition and inducement to good and faithful service from the *Native ranks in regiments*.

I know of no instance of this being done in the Bombay Native infantry. In my belief, the Mahratta of good family, though he may enter the cavalry branch, will not enter the infantry, and in regiments mixed as those of this presidency, I don't see any great advantage in his doing so, while I think heart-burning amongst the non-commissioned ranks very probable to the great disturbance of regimental harmony.

Of course it would be to the good of the service having Native officers of a higher position in society and of a superior education in the army, but its advantages would be counterbalanced, in my mind, by the ascendancy they would attain over the men, more especially of their own caste, which, in the event of disaffection, might considerably weaken the power and influence of the European officers, and have in consequence a most injurious effect. This innovation has never been attempted in the infantry of the Bombay army.

The practice of appointing young gentlemen to direct commissions has hitherto, I believe, been unknown in the Bombay army, and I fear its introduction would be considered an objectionable innovation by all grades who have always been led to look on the commissioned grades as a reward for good service in the ranks. It would be looked on as the sharp end of the wedge destined eventually to overthrow merit by family connections and interest derived therefrom.

In a comparatively young army, such as that of Bengal, the system might be introduced; but not so, I consider, in the old-established institutions of Madras and Bombay.

No, it is much better to drop the present practice as a failure. Let exceptionally good men be exceptionally provided for.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 25th Bombay Native (Light) Infantry.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

Colonel W. Bannerman, 4th Bombay Rifles.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 18th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

I do not think so in the Bombay presidency.

29. Do you consider that the recruits obtained for your regiment are the best procurable of the class ordered; if not, what suggestions can you make for improving their quality?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

By no means; for artizans and laborers of all kinds receive better wages than sepoy; and the majority of recruits who offer themselves for service have to be rejected for physical reasons, or from not being up to the regulated standard. Speaking of Punjabis, I am of opinion that greater facilities for prosecuting their suits in the civil courts would render the service more sought after, and draw a better class of men to the ranks of the army; as from the fact of a man being a soldier and unable to obtain leave at all times, I consider many are often put to great extra expense, inconvenience, and loss. I also think that advantages in travelling by rail should be granted to sepoy, and return tickets issued to all men proceeding on leave or furlough to their homes. All these concessions would serve to make the service more popular and more thought of.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I think they are the best that could be procured. I have good Native officers and non-commissioned officers, and I employ them on recruiting duty.

I take the agricultural classes only, and get as many landed proprietors as possible.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

This question is partly answered in my reply to No. 25. The reserve scheme would bring forward men of better physique than now enlist. With careful recruiting, lads now obtained for this regiment turn out a fine body; but my system is to march recruits in squads under lance-naiks to their bunnabs, where they are served out with the *full authorized rations*, and not allowed to mess with old sepoy. In this way they eat the *full* amount, and nourish their bodies properly; whereas, being allowed to feed themselves or to mess with sepoy, they begin their service by saving as much as they could, to the detriment of their constitutions.

Colonel E. Dandridge, Commanding 40th Native Infantry.

I have no fault to find generally with the recruits obtained, but believe that many fine men are lost to the service through the "hobbies" of officers. For instance, during the recent augmentation I sent a recruiting party to a particular district where I had been told very fine men of the class I wanted were to be had. The officer commanding there objected to men over 5 feet 8 inches in height and rejected numbers. I have above suggested that there should be a district recruiting-depôt.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

The recruits obtained for my regiment I consider to be on the average of a very fair quality and as good as can be expected. Very much depends upon the non-commissioned officers and men selected for recruiting duty, and the manner in which they carry out their instructions as to the selection of recruits only of good physique. Men who do not carry out these orders properly are not fit to be trusted, and are marked accordingly. But if the inducements lately held out by Government in the shape of increase of good-conduct pay at earlier periods of service, and a liberal kit allowance, are not sufficient to tempt them, it seems difficult to offer any further suggestions.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

No.—But local recruiting for district or provincial regiments and the advantages of reserve service will improve the quality.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

I think that better men might be obtained than are now enlisted. Non-commissioned officers and men employed on recruiting duty are tempted to enlist their own relatives and friends in preference to others, and they take men who can pay them before those who cannot. *European* officers should be employed on recruiting, which, if there were dépôt battalions in recruiting districts, could easily be arranged.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

The recruits I have obtained lately are of a fair average stamp, but not the best procurable. Localization would, I am sure, induce a better class of men to enlist. I would also suggest that recruits be granted, from date of enlistment, full sepoy's pay, and not, as at present, two annas a day subsistence allowance, which barely pays for the cheapest description of food. I feel sure this is the chief reason of the frequent desertions of recruits from the recruiting parties.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Yes; the recruits are a very good class of men.

Lieut.-Col. R. G. Rogers, Commanding 20th Punjab N. I.

Most certainly not: *vide* following reports B and B1.

Report B.

I attach copy of report dated 2nd October 1872 (marked B1).

The causes operating against obtaining good recruits, enumerated in paragraphs 2 and 3 thereof, are still in force; and, as anticipated, the difficulty has immensely increased, and will continue to increase, unless the position of the sepoy be much improved.

I have already suggested a partial remedy. Increase of pay, especially to the non-commissioned grades, greater liberality as regards clothing and compensation for same when lost, destroyed, or damaged on service. Restriction of regiments to their own regulated recruiting-grounds and pension of rank as a right after fifteen years' service on condition of transfer to second reserve (for garrison duty in India only and in case of emergency), with some addition to pension in consideration thereof.

Add to these exemption from all tolls, free postage of letters to and from their friends, and conducting of civil suits on unstamped paper and freedom from court-fees, with right to have their cases heard (out of turn) on presentation, as of old in the Oudh courts.

In fact, restore the old privileges, which gave a man so much importance in Native eyes, better his pay and prospects, and the army will be worth entering, and of course more popular; though with many years of peace and security under our rule, the old martial spirit has died out, and good well-to-do men will be loath, even with strong inducement, to accept the irksome and often hard life of a soldier.

(Sd.) R. G. ROGERS, *Lieut.-Colonel,*
Commandg. 20th Punjab Infantry.

Report B1.

Dated Delhi, 2nd October 1872.

From—Major R. G. ROGERS, Commanding 20th Punjab Infantry,
To—The Adjutant-General in India.

In reply to your memorandum No. 3407A. ^{Native Army Recruiting} of 20th ultimo, I have the honor to state, for the information of the Right Hon'ble the Commander-in-Chief, that Native officers of the regiment on leave or on furlough in different localities have been directed to bring with them on return the number of recruits of their respective classes required to complete the regiment.

2. Owing to the very great demand for Punjab recruits, and to the increased prosperity of the agricultural classes of the Punjab, considerable difficulty is experienced in getting men such as those of which the regiment is composed. This difficulty has been, and will continue yearly, increasing.

3. The smallness of the pay (as compared with the cost of living, &c.), the increased labor of an infantry soldier's duties, and the withdrawal of apparently trivial (but really much prized) privileges, have combined to render the service less attractive than of old. Parents now constantly strive their utmost to prevent their sons enlisting; of those who do enlist, numbers take their discharge, no matter what their service, directly they are required at their homes. Till then they enter the army as an honorable service. Few for whom there is employment at home now enlist. Regiments of the Hindustani portion of the Native army have now Punjabis in their ranks, and recruiting parties of the Bombay army visit the Punjab.

Dated Delhi, 18th March 1872.

From—Major R. G. ROGERS, Commanding 20th Punjab Infantry,
To—The Adjutant-General in India.

In reply to No. 909A. ^{Native Army Recruiting} of the 13th instant, I have the honor to report, for the information of the Right Hon'ble the Commander-in-Chief, that I do not think it advisable to limit the age of recruits enlisting for the Native army to not less than eighteen years, instead of sixteen, as laid down in present regulations. As a rule, they are not enlisted under the former age; but good men might be lost by alteration of the limit.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

Yes.—Owing, however, to the recent augmentation, there was a great demand for Sikh recruits, and the area of enlistment being limited, men of this class were difficult to procure.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Yes, in ordinary times, and under ordinary circumstances, I think they are. There is of course much competition on the part of regiments in obtaining recruits; and the stations at which a regiment may be likely to serve has something to do with it. But when we consider and make allowance for the advance of civilisation, and the prosperity of the country, the opening of communications, and the extension of the railway system, and the better education of the mass of the people, by means of which they can qualify for more lucrative employment, I do not myself think the men now enlisted into Punjab regiments have so much deteriorated as many would have us believe. If there has been a falling off in any one class, it may be amongst the Sikhs; but even from them it is quite possible to obtain a very fine body of men.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Yes, to a certain extent, as regards my own regiment, the classes allowed being Ahcers, Lodhis, and Dhanneks. But I believe if an European officer were allowed to proceed to the districts whence and when extra recruits are required, there would be fewer rejections and failures. I am of opinion also that the dépôt and reserve systems, if organized, would improve the quality of recruits, in Hindustani regiments especially.

Lieutenant-Colonel F. M. Armstrong, Commanding 46th (Rattray's Sikhs) Native Infantry.

We obtain the best security procurable at present; but the Sikh recruit has fallen off of late years. There are many reasons to account for this. The value of land has increased in the Punjab, and young

men take more readily to cultivating it. Education has opened so many more employments. Formerly recruiting Sikhs was restricted to Sikh regiments; now almost every regiment either has, or endeavours to introduce, one or more Sikh companies. I would suggest regiments not entitled to Sikh companies by their organization to be directed to discontinue the enlistment.

No; I do not. When I was with the 4th Native Infantry, I found great difficulty in obtaining good recruits; and I was told, on inquiry, that, though the men themselves were willing enough to enlist, their relatives dissuaded them from it, fearing that the regiment would be sent on foreign service. I found that the best way to adopt was to secure the co-operation of the district authorities; and I feel satisfied that if the advantages of the service, which are but imperfectly understood, were fully explained by them, and if they were called upon by Government to assist in enlisting recruits, the difficulties would be considerably lessened. These remarks apply to Hindustani regiments.

I think the Sikh enlisting-ground is a great deal too much drawn upon to allow us to have the same class of recruits as formerly.

Yes; generally they are. We only get an inferior stamp when we are in a hurry. When we have time and can make proper arrangements, we get the men we want: hence my view that the fighting strength of a regiment should not depend on hastily-trained recruits. They should be trained separately and passed into the ranks as required.

I think all recruiting ought to be conducted by European officers. Immediately after the annual inspection, an officer, with a small party of carefully-selected non-commissioned officers and men, should be sent to each well-known recruiting centre, such as Futteghur, Shahjahanpore, Agra, Meerut, &c., &c.; and it should be his business to enlist recruits for *all* regiments requiring them. He should be an officer of experience; and, subject to the men passing a medical examination, he should have the undivided responsibility of passing them into the service.

NOTE.—Officers for recruiting duty should be appointed under divisional arrangements. Officers commanding regiments requiring recruits from any particular district would write to the officer commanding the division of which that district forms a part, giving all particulars of the recruits wanted. This information would be passed on to the recruiting officer for compliance, and a party should be sent down from the regiment concerned to take over the men when obtained, and escort them to their own head-quarters. At recruiting centres tents should be pitched for the recruits, and they should be looked after and subjected to some kind of discipline till despatched to their regiments. At present they live anywhere and anyhow, and often contract sickness and disease at this period.

The recruits obtained for my regiment are fair; but, under a better system, a superior class could be obtained and in greater numbers, the present supply not being adequate. For further remarks on this subject, *vide* my letter* to Adjutant-General in India, No. 8A. (Confidential), ^{Recruiting} Native Army, dated 20th May 1879.

I hope no change will be attempted in the present system of recruiting *Goorkhas*, unless indeed the Nepal Durbar could be induced to allow our recruiting parties to enter Nepal, and carry on their operations without obstruction. But as a willing assent on the part of the Nepal Government to such a proposition is not at all probable, matters had better be left as they are as far as this is concerned. But no regiments other than *Goorkhas* and the Guides should be permitted to enlist *Goorkhas*, as they do now, both on account of the difficulties of recruiting, and because it is better to keep these men as separate from the men of the plains as possible.

Yes, the very best. But under existing arrangements, as lately ordered by Government, it will be *most* difficult for *Goorkha* regiments to obtain *good* *Goorkhas* of the pure type! The recruits lately supplied by the Government of Nepal and sent to Goruckpore were to the extent of 70 or 80 per cent. utterly unfit for enlistment in *Goorkha* regiments. They were mostly Brahmins, Khuttries, Khuss Thappas, Newars, Demais, Lohars, &c., &c., men that are seldom, if ever, enlisted knowingly in *Goorkha* regiments. Demais are occasionally enlisted for the band or as buglers, and occasionally a few Lohars. The *only* plan, in my opinion, to get *pure* *Goorkha* recruits of the right type is to obtain the permission of the Nepal Government for our recruiting parties to *enter Nepal* and *pick* and *choose* recruits from the *right districts*. Hitherto it has been a very slow process getting recruits on the Goruckpore-Nepal frontier. The recruiting parties of *Goorkha* regiments have to compete against ordinary Native regiments, such as the 8th, 9th, 13th, 18th, 42nd, 43rd and 44th Native infantry and others; the 42nd, 43rd and 44th have a large number of *Goorkhas* in their ranks. The other regiments mentioned have each a so-called

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

Major R. B. P. P. Campbell, Corps of Guides.

Major A. G. Ross, Commanding 1st Sikh Infantry.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating Commandant 6th Madras Native Infantry.

Colonel G. Hearn, Commanding 16th Madras Native Infantry.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Goorkha company, though I believe in the time of Sir Hugh Rose, when Commander-in-Chief, it was prohibited for regiments of the Native line to have special Goorkha companies. The Goorkha recruits are generally procurable in January and February, when fairs are held on the frontier, but it has often taken recruiting parties of my regiment four to five months to get only 30 to 40 recruits of the pure right type.

I think they are. Those recently enlisted have been very carefully inspected, and will, I think, turn out well.

Yes, I have ever been careful of this point with my recruiting parties and encouraging the men to induce their relations and friends to enlist in the corps.

We generally get very good recruits, but when a great many recruits are enlisted in a hurry, as was the case last year, several bad men slip in. I think myself that it is a pity that so many regiments enlist in the Punjab and in the North-West Frontier.

I find, as a rule, recruiting parties of my own regiment succeed in obtaining recruits of the best stamp procurable.

I consider the recruits lately obtained up to the mark, and the supply of young men physically fit is quite equal to the demand.

The recruits obtained for my regiment, The Corps of Guides, are, I think, as good as can be got.

Sikhs.—They are in ordinary times as good as are obtainable.

Punjabi.—Musalmans.—Ditto.

Dogras.—Ditto.

Hindustanis.—No, they are shorter, smaller men. We do not get the pick: having but one company, and being far from Hindustan.

Pathans.—No; we have but one company, and it is scattered over 8 companies.

My only suggestion of improvement is, if we are to keep these companies (Hindustanis and Pathans), make us class companies and collect these fellows together under their own Native officers.

The recruits obtained for my regiment are physically the best procurable, but they are not so frequently drawn now as heretofore from the sons of well-to-do ryots. The spread of education among the people has also induced many lads, the sons of well-to-do people, to seek other and more lucrative duties. I also think that the growing system of interfering with the men's families and household arrangements on sanitary grounds deters many well-to-do lads from enlisting. I would suggest therefore less interference with their families.

I consider that the recruits obtained for the regiment are, on the whole, a fair body of men.

The recruits are the best obtainable, and are the same, and as good, as they were thirty years ago. There is no difficulty in obtaining as many as are wanted.

The Madras regiments recruit from all classes except sweepers. I am satisfied with the recruits obtained; they rapidly improve under training.

I think the recruits in my regiment are of a very good description, about the best procurable for the money, that is, the rate of pay which is small for the work done. Higher pay would procure finer men in all probability.

We get a fair stamp of recruits, but not with the same facility as formerly. I think localizing regiments and battalions in particular districts would procure a more plentiful supply.

No, certainly not. I think, considering the great advantages of pay, pension and prospect of advancement, we should get a much better class of men than we are now enlisting. Commanding officers should interest themselves more in the matter than they do as a rule, instead of leaving it so much to their adjutants; and I think also that commandants desirous of obtaining recruits should be allowed and encouraged to advertise freely in district gazettes, and by placards on police thanas, and should be aided indirectly by the police themselves. A strict watch should be kept by the regimental authorities that extortion is not practised by Native staff, and that men of one caste are not deterred from coming forward for enlistment by threats from men of lower or different caste to themselves.

No; the agricultural classes from which the Hindoo portion of them come are now so much better off than formerly, and there are other openings, such as police, that do not take them from the vicinity of their homes, that the pay of a private is no longer sufficient inducement

for the best to enlist. We were last year quartered in North Arcot, formerly a great recruiting field, where in 1857-58 very large numbers were obtained as soon as required, and yet we had to leave much under strength. The only suggestion I can make is an impracticable one I fear—higher pay and free quarters: the market value of the article we want is more than we can give.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

About a year ago the standard for recruits both as to height and chest measurement was raised, and the stamp of recruit now being enlisted is very satisfactory. The Mahrattas, though not perhaps so tall as the recruits obtained from Northern India, are, when properly selected, muscular and well-limbed and suitable for military service. The Mahrattas of the Deccan are preferred as recruits to those from the Concan, but both make good soldiers. The recruiting parties from Bombay regiments, which visit the Punjab and Northern India, bring a good stamp of recruit from those parts, but the enlistment of such men is limited, as it has always been held that it is most desirable to maintain the distinct nationality of the Bombay army. Many commanding officers prefer the Mahomaden soldiers from the Punjab to those enlisted within the limits of the presidency, but I think this arises in a great measure from the fact that these men are more easily obtained and are taller and more effective looking, though not more efficient than the well-selected Mahratta. The annexed return shows the strength of the various castes and races in each regiment of Native infantry in the Bombay army:—

Return showing the distribution of the present strength of each Regiment of Native Infantry by Castes and Races.

22nd August 1879.

CORPS.	Mahrattas.	Mahomedans (excluding those of the Punjab).	Hindustanis of all Castes.	Punjabis (including Sikhs).	Purwars (all Natives of this Presidency).	Other castes, including Christians, Jews, men from the Carnatic, &c.	TOTAL.
1st Regiment Native Infantry	384	67	89	79	110	132	861
2nd " " "	271	29	78	52	128	107	665
3rd " " "	293	115	48	15	52	160	683
4th " " "	150	113	194	4	130	99	690
5th " " "	293	97	67	48	72	116	693
6th " " "	351	88	119	6	105	31	700
7th " " "	335	95	97	36	97	45	705
8th " " "	335	72	35	91	87	71	691
9th " " "	276	89	164	15	90	72	706
10th " " "	298	90	52	23	104	137	704
11th " " "	390	58	79	44	79	33	683
12th " " "	327	61	51	47	85	100	671
13th " " "	308	55	112	56	114	44	689
14th " " "	275	50	133	55	77	122	712
15th " " "	279	67	79	6	79	174	684
16th " " "	335	38	41	34	74	140	662
17th " " "	206	43	47	39	121	236	692
18th " " "	356	51	51	34	63	69	624
19th " " "	395	37	122	57	130	110	851
20th " " "	313	61	138	20	87	87	706
21st " " "	...	218	77	3	384	26	708
22nd " " "	195	78	142	41	62	164	682
23rd " " "	303	101	144	49	...	112	709
24th " " "	346	57	71	29	65	139	707
25th " " "	273	55	62	39	77	170	676
26th " " "	311	64	30	22	71	171	669
27th " " "	4	233	55	328	...	23	693
28th " " "	359	89	57	21	64	101	691
29th " " "	2	366	23	383	...	43	816
30th " " "	80	252	112	131	...	78	653
TOTAL	8,048	2,939	2,569	1,807	2,607	3,116	21,086

Brigadier-General A. B. Little,
Commandant 25th Bombay
Native (Light) Infantry.

I think the recruits which have of late been obtained for my regiment have been as good as I had any reason to expect, considering the number of regiments which recruit from the same districts, and the small area of country they have to recruit from.

The country from which the Bombay regiments are allowed to recruit from in their own presidency is, I consider, worked out. Having the number of foreigners allowed in my regiment, I can take none, except from out of the presidency, but would gladly do so.

I think Bombay regiments might be allowed to enlist more men from the upper parts of India.

Colonel S. Edwardes, Commanding 2nd (Prince of Wales's Own) Grenadier Regiment Bombay Native Infantry.

I have great difficulty in obtaining men of the height and chest measurement required for a Grenadier regiment from the Southern Mahratta Country. Those obtained, however, are good. The only remedy is to increase the area for recruiting. The standard of height should certainly not be lowered; it is quite low enough as it is. It would be a good plan to offer a premium to men on furlough who bring good recruits. They are more likely to induce their relations and friends to enlist than are recruiting parties.

Colonel W. Bannerman, 4th Bombay Rifles.

The recruits enlisted are the best procurable of the class ordered; but there is often great difficulty in obtaining the number wanted, of standard height and physical fitness for service. Recruits are not to be had in the same numbers now-a-days as formerly, and it is only those who find they cannot get even a bare livelihood at home who come.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

We have little difficulty in procuring excellent recruits, but I think that more men than the 100 now allowed might with advantage be enlisted from beyond presidency limits, especially from the Punjab.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

They are not the best that might be had.

Recruits in former years (20 and 25 years ago) were much better, but education has had the effect of drawing them away to other occupations.

Railways employ large numbers who formerly enlisted; service there is preferred, being less strict and probably more open to other gains.

The army is less popular than it used to be; a soldier has more difficulty now living on his pay; and although this has been slightly improved of late, it is still insufficient to compete with other occupations, and so bring the best material into the ranks; the whole secret is a matter of *pay*.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

As far as the limited area for recruiting permitted in this presidency will admit, I think this is so.

The quality of the regiment, as a whole, would be vastly improved by a larger admixture of the Northern tribes being allowed as suggested in reply to question 10.

My own conviction is that the Concan and Bombay portion of the Deccan are worked out for the present, and the character of their supply must continue to deteriorate if the Bombay army is to continue to draw from it.

Colonel Crengh, Commanding 19th Bombay Native Infantry.

The recruits we obtain are some good and some indifferent, and the best procurable at the time; but should a reserve be determined on, I consider more would offer to enlist, and consequently there would be a greater choice, as there would then be a certainty of their returning to their homes after a service of twelve years, should they so wish; whereas now men are forced to remain with their regiments until they become unfit from age or ill-health, and this deters many from entering the service.

Colonel A. Carnegie, 21st Bombay Native Infantry.

I have not the slightest difficulty in getting recruits of the requisite class as vacancies occur. During the last two years I have obtained some remarkably fine men.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

I believe they are as good or nearly so as can be found in the districts we are at present allowed to recruit in. The only suggestion I can make for their improvement is to secure more willing and general assistance from the district officials to recruiting parties, and for men discharged from the army or pensioned with good characters to have a first claim on all minor civil appointments, such as police, peons, chaprassies, railway gate-keepers, &c.

Lieut.-Col. O. V. Tannor, Commanding 29th Bombay N. I.

I think the system of local regiments would cause an improvement.

30. Are you in favor of class-company regiments, class regiments, or mixed regiments?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Class regiments.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I strongly advocate class regiments, all the men of each regiment being raised from a given district or area. In addition to the other advantages, matters of feeding are so simplified in class regiments.

Colonel T. Boisaragon, Commanding 30th Punjab Native Infantry.

Most decidedly the *class regiment*: for example, *vide* the Goorkhas. Had there been class regiments, there would have been no call, as in this Afghan campaign, for men to either help to ruin and desolate their own villages and to fire upon their own kith and kin, or to desert to the enemy. Blood is thicker than water. Under the present organization, religious excitement or disaffection of a class cannot be confined to any limits, and the only remedy against it is the *British* bayonet. With a general mixture of classes in each regiment, excitement or disaffection of any one class would make itself felt in every garrison in India. With class regiments the excitement would be confined to the garrisons where those regiments alone were quartered. Regiments of antagonistic classes could be sent down to oppose and put down the disaffected ones. Antagonism of classes is one of our surest holds on this country. There would be greater *esprit de corps* than now; the movements of class regiments and the messing system would be simpler and more expeditious; and the reserve scheme would be very greatly facilitated.

Class regiments could be recruited from certain areas; and this would simplify matters as regards the head-quarter centre of their reserves. Thus, of the Sikhs, there could be Malwa Sikh regiments, with Ferozepore or Ludhiana as head-quarter centre; the Doaba Sikh regiments, head-quarter centre Jullundur; the Majjha Sikh regiments, head-quarter centre Lahore or Umritsur. The Malwa Mahomedan regiments; the Doaba Mahomedan regiments; the Pind Dadun Khan and Jhelum Mahomedan regiments; the Kohat, including Bunerh and Khuttucks Pathans, regiment; the Eusufzai Pathan regiments, &c., &c., including the Dogras, Oudh Hindustanis, Rohilkhand Hindustanis, all in separate regiments, with their head-quarter centre conveniently situated.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Class regiments.

I consider that of whatever classes a regiment may be composed, each class should be in separate companies and not indiscriminately mixed up. But I am decidedly of opinion that regiments composed as my own, of almost every class, Sikhs, Punjabi Mahomedans, Hindus of almost every caste, high and low, from Brahmin and Rajput to Jats, Ahirs, all kinds of inferior castes to the very lowest, Khuttucks, Chamars, and Bhungis, are a fatal mistake. The men of these low castes never make good non-commissioned officers, and are quite unfitted for the commissioned grade.

They feel that they have no social status, and can never gain any respect from men of higher caste, having no self-respect of their own.

If such men were enlisted in special low-caste regiments, it is possible they might be made more of; but I doubt it, as I do not think they have any natural aptitude or liking for the military profession.

Mixed regiments of Hindustanis, such as Brahmans, Rajputs, Ahirs and Hindustani Mussalmans, as in the old days, are not, I consider, in any way objectionable; but in these the Brahmin element should be small, and I would always in this case suggest an equal proportion of Mahomedans to Hindus.

Hill-men, whether Goorkhas or others, such as Kumaonis and Dogras, also I would have in class regiments of their own. Sikhs and Punjabi Mahomedans also I consider no disadvantage if in proper proportions, each with its own Native officers and non-commissioned officers of companies. But I give the preference to class regiments, whether Sikhs, Pathans, Punjabi or Hindustani Mussalmans, or Hindus. I consider in such regiments one would always get the best men of their class; and they would always be able to be pitted one against the other in case of any disaffection among any particular class.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Class battalions, with one or more companies, according to local circumstances, of a different religion or race to the bulk of the battalion. For depot battalions, class companies to meet the requirements of the service battalions.

By localizing armies and regiments for recruiting purposes (*vide* answers 10 and 15), we shall succeed to a great extent in keeping distinct local and race interests, but we shall still fail in bringing religious and caste interests into antagonism. To do this the elements of the regiment must be again sub-divided, and a system of class battalions or at least class companies must be rigidly enforced.

In class battalions, however, at least one of the ten companies should be of a different race or religion to the rest, in order that the officers may always have some small body on whom they might rely in case of mutiny.

Had the old army been so organized, we might possibly have seen the defence of Arrah repeated in half-a-dozen different places.

Mixed regiments confound class interests and destroy caste prejudices. Class battalions and local regiments foster *esprit de corps*, increase the popularity of the service, facilitate the formation of reserves, and, above all, keep alive class and race rivalries.

Note.—I consider Hindus generally to be of one caste. I would not seek for instances to sever Brahmins from Chuttrias or Ahirs from Gwalas. The shades of distinction are so slight as to render separation neither necessary nor practicable.

I am a strong advocate for class regiments. The enemies against whom our troops are liable to be sent are of such varied castes and denominations, that if mixed or even class-company regiments are employed, some of the fellow tribesmen or compatriots of the enemy must necessarily be amongst our troops, the objections to which are obvious, and have been proved by experience in the late campaign. On the other hand, with class regiments, a judicious selection of corps to be employed would obviate this entirely.

I am certainly in favor of class regiments.

I think class regiments the best, as they would be more ready to turn against another class if required. Men of different classes mixed up in the same corps for many years are apt to become quite friendly after a time. Besides, in the event of double-battalion regiments being formed, it would be impossible to have one battalion at a fixed head-quarters near the men's homes, unless the men were all of one class.

Of class companies. With them valuable class emulation is obtained, individuality of class customs, antipathies, &c., preserved, and danger of powerful combinations averted.

I think that there should only be two kinds, *viz.*, class-company regiments and class regiments. I would keep as they are all the present class regiments; but I think that a class-company regiment is the best composition for Punjab regiments and high-caste and low-caste Hindustani regiments. I think it essential that there should not be more than four classes in each regiment, and that each of these classes has its proper proportion of Native commissioned and non-commissioned officers. The class-company Punjab regiments should be composed, as now, of Sikhs, Punjabi Muhammadans, Pathans, and Dogras. I think that the Sikhs should either be all Manjha or all Malwa men. Hindustani class-company regiments should be of two kinds, *viz.*, high-caste and low-caste. I consider it a mistake to have low-caste men in a high-caste regiment. In the high-caste Hindustani regiments there should be some companies of Hindustani Muhammadans. I think it more advisable that Sikhs should be eliminated from Hindustani regiments, after a few years' service in which they become brahminized. Leaving out of the question Goorkha and Muzbi regiments, I think that the class-company regiment, under the conditions I have named, is more generally useful than a class regiment. My objection to mixed regiments is that there is no security that every class is properly represented in the commissioned and non-commissioned grades; and this I consider absolutely necessary to ensure a regiment being contented and efficient.

I am decidedly in favor of class-company regiments; but, as a *sine qua non*, the companies should be commanded by Native officers of their own class.

I am inclined to think that if we are to reap the full advantage of all that is valuable in the character of each class, we should keep that class separate by itself. If the classes are mixed up, I think it is more than possible for the rough edges of caste and class prejudice (valuable elements in their way) to be rubbed off.

Nothing in my opinion tends more to the efficiency of a regiment than the existence of a healthy emulation between the classes of which it is composed.

Of class regiments; but I would have no caste enlisted below that of the Ahir. Class regiments would be creative of great *esprit de corps*, and a very desirable object would be gained by never having, as under the present system, a low-caste Native officer over higher caste inferiors in grade.

Class regiments.

I am in favor of class regiments, as far as the Sikh and Goorkha soldier is concerned. It is well known that the Sikh, by being associated with other races, loses his special characteristics; and in regiments so composed the peculiarities of race no longer oppose each other in a marked manner. This is seen more especially in certain low-caste regiments in which Sikh companies exist. These men by contact with the races which surround them gradually lose their nationality, and are Sikhs

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infantry.

Lieutenant-Colonel L. H.
Williams, 14th Sikhs.

Lieutenant-Colonel R. J.
Walker, 17th Native Infantry.

Lieutenant-Colonel R. G.
Rogers, 20th Punjab Native Infantry.

Lieutenant-Colonel F. B.
Norman, Commanding 24th
Punjab Native Infantry.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Row-
croft, 35th Native Infantry.

Lieut.-Col. J. M. Armstrong,
Comdg. 45th (Battray's Sikhs) N.I.

Major R. S. Robertson, 4th
Native Infantry, Officiating Assistant
Adjutant-General, Allahabad
Division.

only in name. I would therefore keep Sikhs and Goorkhas separate, and would advocate the formation of a certain number of Sikh regiments, but their introduction must be gradual. In regiments composed of other races the system of class companies seems to work very well, and is preferable to that of mixed regiments, of which I do not approve. While on this subject, I should like to say a few words about a certain class of regiments which are kept up on a system which I cannot but think a mistaken one. These regiments are composed principally of the very lowest castes; and, however smart they may be in appearance, are unsuited for fighting purposes, and would not bear the strain of a campaign. This indeed appears to be acknowledged by Government, as they are never employed on service; and the question arises as to the advantage gained by retaining regiments recognized to be not adapted for the field, and whose establishment costs equally as much as those regiments which are in every way efficient.

Class regiments.

Major R. A. Wanchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

I prefer class regiments where such are possible; where not, then regiments composed of two or at the most three cognate classes. I would not mix Hindus and Muhammadans, nor would I associate high with low caste. In the antagonism and rivalry arising from difference of caste and creed should rest our strength, whereas we are doing all we can to obliterate these distinctions and rub the corners off. I have served in a class-company regiment, and now command a class regiment; and the peace, concord, and harmony of the one most favorably contrasts with the other.

It is impossible for rival creeds and castes to work in perfect harmony with each other, and rows are easily produced. In the way of promotion there cannot be perfect satisfaction. I have known a lance naik run to jemadar in six months, merely because his class had but one company, and he was the most eligible of his class, which had been much reduced. He superseded 40 naiks and 40 havildars, not because he was a better man, but because of his caste. Now, however this may be accepted and submitted to, it is not altogether free from heart-burning.

The small advantages to be gained by a little rivalry among caste companies does not equal the great advantages of a happy united regiment, to say nothing of the advantages as regards carriage, cooking, &c., &c.

Captain H. D. Hutchinson, 40th Native Infantry.

I advocate class regiments. One great drawback common to class-company regiments and mixed regiments is that the different castes require different kinds of cooking utensils. On service this would be troublesome.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

I am in favor of class regiments as being more efficient; and if disaffection is dreaded, I believe that the smaller the unit and the more mixed, the greater the chance of combination and corruption. Hindus and Mahomedans were side by side in regiments in the mutiny; yet made common cause against us in spite of their antagonistic creeds and races.

Major A. Battye, 2nd Goorkhas.

Would have class regiments, but would allow a certain number of different classes to enlist in a regiment that was quartered near their homes, and would not lay down the rule that each regiment must enlist only one class. Would have six companies of one class, and the other two companies composed of all classes belonging to the district in which the regiment was quartered. If all the companies are of one class only, and the regiments quartered in their own province, many good soldiers would be lost to the army, as they would have to go to regiments serving far from their own homes with no probability of serving near them.

Major F. F. Rowcroft, 4th Goorkhas.

As far as my somewhat limited experience goes, I am in favor of having class regiments.

Colonel R. Blair, 3rd Native Infantry.

Having only served in my present regiment, which is a mixed class, I am unable to say.

Colonel H. Boisragon, Commandant 4th Sikhs.

Class regiments: for details, *vide* my reply to question 10. Class companies offer no advantage; on the contrary, drawbacks. Either class or mixed regiments; the former now a necessity, for various reasons already given herein.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

I know most of class-company regiments, and I like that organization best; but I don't think that it has practically any great superiority over the mixed system. Regiments do equally well under both systems. I should consider a man a madman who took a mixed regiment like the 4th Punjab Infantry and changed it into a class-company regiment with the idea that he was thereby improving it. I would not have

many class regiments in the army; but I would not alter the organization of class regiments that are now in an efficient state.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

I prefer class-company regiments, and think they are preferable for many reasons, principal among these for the emulation there is among the classes.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

I think a larger number of class regiments could be introduced with advantage.

Where it was necessary to send troops into a disturbed district, it would be desirable to have the men totally unbiased by local sympathy or prejudice.

A better system of messing (and thereby curtailing the quantity of cooking-pots) can be carried out in a class regiment than in a mixed one.

When a regiment is not a class one, I prefer mixed to class companies.

What I go upon is that the closer the men are brought together, and the more thoroughly they are mixed, the better. With class companies, I am inclined to think the men of different classes do not mix so freely as they do in the others.

Major R. B. P. P. Campbell, Corps of Guides.

My experience has always been with class troop and company regiments; and I certainly prefer them to any other, as each troop or company neutralizes the other on all occasions. Class-company regiments are not so bigoted as class regiments. I have heard officers and men belonging to mixed regiments lamenting that their regiment was not a class-company one.

Major A. G. Rosa, Commanding 1st Sikhs.

I like class regiments.

I like class half-battalions.

I would like class double-companies.

I like class companies.

I dislike mixed regiments, as I think you are handicapped all round in dealing with the men. For the reserve system, I suspect the regiments must be class regiments.

Colonel A. Jenkins, Commandant 2nd Madras N. I.

I am in favor of mixed regiments in the fullest sense of the term.

Col. W. Osborn, Offg. Commandant 9th Madras N. I.

I am in favor of mixed companies and mixed regiments.

Colonel G. Hearn, Commanding 13th Madras N. I.

Mixed regiments or class regiments would not answer in Madras.

Colonel L. W. Buck, Commandant 20th Madras N. I.

The Madras are all mixed regiments. The system appears to answer well. I have no experience of any other.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

On the whole, I am in favor of mixed regiments in as nearly equal proportions as possible, so that no one class or caste shall dominate over the other.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

I have always served with mixed regiments, but for efficiency I should prefer class regiments.

I think class regiments dangerous in the event of political disturbances among the class they are drawn from. Class-company regiments are not so open to objection on this score; but I don't think they would hold together, or pull together at a pinch, so well as even mixed regiments.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Mixed regiments, as a rule. I think combination against Government more unlikely in a mixed regiment than in the other two; but if such an experiment could be tried, I believe a Native regiment composed entirely of Native Christians would be perfectly safe and loyal. They must be so.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Of mixed regiments. Any common action, whether as the outcome of a deliberate combination, or the unconsidered and momentary outburst of fanaticism, is much less likely where all castes are mixed together.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

I believe that class regiments are the best, as I feel assured that the class or caste which has in civil life the social superiority will also in a military body dominate the inferior castes, and thus neutralize their influence, which would be considerable if they were kept as separate regiments. The fact of a low-caste man holding a commission as an officer does not in practice give him a superior social position to a Brahmin sepoy, and it appears useless to attempt to ignore this feeling, the results of which in mixed regiments must be very detrimental to discipline. If all the armies of India are hereafter united under one Commander-in-Chief, the class-regiment system would be found most useful, as it would then on emergencies be possible so to locate regiments that, even in times of popular agitation, the sepoys would have no sympathies whatever with the people of the district in which they were serving.

Brigadier-General A. B. Little,
Commandant 25th Bombay
Native Light Infantry.

I am not in favor of class-company regiments or class regiments. I think nothing can be better than having men of all castes mixed up, so to speak, and do duty in every way together.
My experience during the mutiny led me to think this; and this opinion I have ever held since.

Col. S. Edwardes, Comdg. 2nd
(Prince of Wales' Own) Grenadier
Regiment Bombay N. I.

I am in favor of mixed regiments.

Colonel W. Bannerman, 4th
Bombay Rifles.

I am in favor of mixed regiments. Class regiments and class-company regiments both tend to foster and keep alive caste prejudices, detrimental to the interests of the service.

Colonel G. W. Hanson, Com-
manding 9th Bombay N. I.

Most decidedly in favor of mixed regiments, for the reason given in my answer No. 10.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

A mixed regiment is best for Bombay troops.

Colonel R. Mallaby, Command-
ant 13th Bombay N. I.

The more mixed regiments are the better; and I should be glad to see those of the Bombay army more so.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Mixed regiments and mixed companies.

Colonel A. Carnegie, 21st Bom-
bay Native Infantry.

Most decidedly of mixed regiments. I consider that to this system the Bombay army owes its salvation during the Bengal mutiny.

Colonel J. Fairbrother, Com-
manding 22nd Bombay Native
Infantry.

I am strongly in favor of mixed companies and mixed regiments, with the exception of a few castes; such as Beluchis, Goorkhas, and perhaps Africans—Seedees. I think a regiment or two of Eurasians might be raised at each presidency with advantage. In ordinary Native regiments, the greater the mixture the better.

Lieutenant-Colonel O. V. Tan-
ner, Commanding 29th Bombay
Native Infantry.

I am in favor of class regiments so far as to have all of one creed, such as all Mussulmans or all Hindus, &c., as it would be less complicated in hutting men, in feeding them when crossing the sea, &c., &c.

31. Is any arrangement possible by which Native officers of great families could bring recruits to a regiment, and maintain a certain periodical supply?

Colonel J. Doran, Command-
ing 27th Punjab Native Infantry.

I know of none, unless that when entertaining Native officers of this description, commanding officers made it a proviso that they should bring a certain number of recruits annually.

Colonel H. S. Obbald, Com-
mandant 41st Bengal Native In-
fantry.

I do not think it advisable that any such arrangement should be contemplated. You must have good Native officers to be able to get good recruits; but family regiments or companies are bad, and such they would become under a system of supply through Native officers of good family with periodical supply.

Colonel T. Boissragon, Com-
manding 30th Punjab Native In-
fantry.

Some such arrangements might be made by Government with *Native gentlemen* of undoubted loyalty and position; but I do not think it would be at all desirable to put this power into the hands of *Native officers*, supposing they had sufficient influence to maintain a regular periodical supply. Supposing that a Native officer committed a military offence meriting dismissal from the service, he would use influence over the men procured through him prejudicially to Government, and besides, while in the service, they would look up to him much more than to the commanding officer or any of the British officers.

Colonel E. Dandridge, Com-
manding 40th Native Infantry.

There could not be a finer lot of men in regard to physique than those of the old Bengal army before the mutiny. Recruits were principally brought to corps by Native officers and men returning from furlough, and there were always recruits in the lines waiting for vacancies. The old system might be reverted to with advantage.

Colonel G. W. Fraser, Com-
mandant 39th Native Infantry.

Such a system might be practicable in Oudh and other parts of India where there are large landholders, but not I think generally every-where.

Lieutenant-Colonel H. Worsley,
Commanding 7th Bengal Native
Infantry.

Dependent on the land tenure of the province. Where a zemindari or talukdari system prevails as in Oudh, possibly the grant of commissions, coupled with remission of certain taxes, might be made conditional on obtaining recruits.

Civil officers could best answer this question.

Lieutenant-Colonel P. Harris,
Commanding 11th Native In-
fantry.

No doubt some such system could be organized if properly under-
taken. Indeed one of our old retired subadar-majors annually sends us

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel F. B. Norman, Commanding 21st Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 29th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 33th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieut.-Colonel F. H. Jenkins, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

some recruits from his own village. During the mutiny at Barraekpore this Native officer had a considerable following of his own men in the regiment; and by distributing them over the different companies, we were enabled to get information for the authorities of all that was going on in every regiment at the station. A great deal of valuable information reached Lord Canning at a very critical time through the agency of this Native officer and his men.

I know of no arrangement by which this could be managed.

Native officers do bring a large proportion of recruits. Without an undue amount of absence, I do not see how they could arrange for maintenance of a periodical supply.

All attempts at this that I have seen have failed. During the mutiny many men of good family raised companies and were rewarded with commissions. Recruits being urgently wanted at the time, the physique of the men thus enlisted was not too closely scrutinized. I have not known a case where a Native officer kept up his company by a periodical supply of recruits.

This very much depends on commanding officers; and in most regiments it will, I think, be found that Native officers are encouraged to bring a certain number of recruits. The presence of a few friends and adherents of a Native officer in a company is a decided advantage; but this requires careful supervision on the part of commandants to prevent the existence of cliques, which are a fruitful source of ill-feeling and trouble in Native regiments.

Not in a Hindustani infantry regiment, though possible in Native cavalry, and in regiments of Punjab infantry.

Not in the infantry, I think. Men in a position to do this prefer service in the cavalry.

I do not think so, as Natives would be inclined to favor their own relations and select them for recruits, irrespective of their fitness for the service. There are of course many exceptions; but this, in my experience, is the rule.

They do all they can now, but nothing certain could be expected.

I suggested in my answer to question 28 that direct nominees should, as a qualification, bring 50 recruits with them. We always encourage Native officers and non-commissioned officers to bring in recruits, particularly when they take leave.

I do not think so, and should not consider it a desirable arrangement.

With reference to Goorkhas, *vide* paragraph 4 of my letter* to Adjutant-General, dated 20th May 1879. ^{Recruiting} Native Army.

Not in Goorkha regiments.

I should say quite possible, especially in the case of Sikh and Pathan Native officers of good family; but this question will be better answered by officers of regiments in which Sikhs and Pathans are largely enlisted.

I am not aware of any.

No, certainly not. No Native is to be trusted in this respect. Those enlisted by them would be their followers, over whom naturally they would have great influence, and not beneficial. This system was long ago tried in the old Bengal army (chiefly in the cavalry), and failed as a military machine, with baneful effects to the State.

This is now the practice in the Guides and in many other regiments.

If the services of a British officer cannot be spared, it is customary to depute good Native officers on recruiting duty. I am unable to suggest any means of their keeping up a periodical supply.

It would be extremely difficult to make any general arrangement on this point. It depends entirely on the individual character of the Native officer. My own experience is that some Native officers are extremely useful in obtaining recruits, while others whose family influence ought to enable them to render valuable service in the recruiting line are quite useless. Besides, Native officers will occasionally try to get men they are interested in enlisted, although they do not come up to the requisite standard.

Major A. G. Ross, Commanding 1st Sikhs.

Certainly they could; and I fancy, according to the numbers of their lot, they could maintain a supply. Commanding officers would have to look out and see they did not bring in inferior classes dependent on their families, *i.e.*, poor, low-bred retainers.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

I see no way possible to the real advantage of the State of placing the recruiting of the corps in the hands of the Native officers.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

I do not consider that this plan would be likely to bring a better class of recruits to a regiment than the present plan of sending out recruiting parties. These recruiting parties, if commanded by men judiciously selected, generally succeed in obtaining a very fair body of recruits.

Colonel G. Hearn, Commanding 16th Madras Native Infantry.

Not possible. No Native officer in the Madras army has influence enough to obtain even five recruits. Their only influence is in the regiment; they have none outside. Almost all my Native officers were born in the regiment and have never left it.

Colonel L. W. Buck, Commandant 20th Madras N. I.

Certainly not in the south of India.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

I know of none. A good and zealous Native officer should secure a good recruit whenever he has a chance; but I should not like him to bring in too many of his own clansmen.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras N. I.

Not in the Madras presidency. We have no Native officers of good family.

Lieutenant-Colonel P. A. Carnegie, 39th Madras N. I.

Never attempted to my knowledge in the Madras presidency; and I do not think it possible at present.

Major E. Fance, Commanding 14th Madras Native Infantry.

It is not possible in Madras. There are of course many Native officers who are the sons of Native officers, but men of good family are unknown. As stated in reply 33, I think every effort should be made to have Native officers without any connections or ties with the men they have to command; whereas with us, all start from the same social level. Moreover, with us Native officers could not bring with them or maintain a periodical supply of recruits, and it seems at least doubtful whether such a system is politically wise.

Brigadier-General H. F. Brooks, Adjutant-General, Bombay Army.

The Native officers of this army having risen from the ranks, the course suggested in this question could not be carried out; but, even where it is possible, I am doubtful of the expediency of an arrangement which would necessarily have the effect of giving a special pre-eminence and power to some officers in a regiment, to the detriment of others whose circumstances or birth did not permit of their securing a personal following in the corps.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Light Infantry.

No.—I do not think, as far as I know, there are any Native officers who hold such a position of influence in their own country as to be able to maintain a supply, or bring recruits to a regiment.

Col. S. Edwards, Comdg. 2nd (Prince of Wales' Own) Grenadier Regiment Bombay N. I.

Not in the Bombay presidency.

Colonel W. R. Bannerman, 4th Bombay Rifles.

Many of the Native officers are of good and respectable family, but not of sufficient social position and influence to bring recruits into the service in any considerable number, and to maintain a periodical supply.

Colonel G. W. Hanson, Commanding 8th Bombay Native Infantry.

I cannot suggest any arrangement of the nature you propose likely to be an improvement upon the present system, which works satisfactorily.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

I know of none.

Colonel R. Mallaly, Commandant 13th Bombay Native Infantry.

I don't think that the arrangement would be applicable to our mixed regiments, in which a large number are low-caste men. I should be afraid the men brought into the regiment under such circumstances would form a clique, and be viewed with jealousy by the rest of the men; and I think with reason.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

No; except in very limited numbers, as is the case now when they occasionally return from furlough with one or two from their own village.

Colonel A. Carnegie, 21st Bombay Native Infantry.

I don't myself see the necessity for any such arrangement; for, as already stated, I experience no difficulty whatever in enlisting recruits as required.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

I know of none. I have only seen one instance; and that appeared to me to be a failure.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

In Bombay we do not, as a rule, get men of good family.

32. Are you in favor of additional pioneer regiments in the Native army, or pioneer companies in regiments?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

I consider a few more pioneer regiments would answer best; say two more for Bengal, and one for each of the other presidencies.

Colonel H. S. Obbard, Commandant 41st Bengal N. I.

More pioneer regiments, not pioneer companies.

Colonel T. Doleragon, Commanding 80th Punjab Native Infantry.

As far as my experience goes of Goorkha and Punjab regiments (I know nothing of the Hindustani corps), I do not see any advantage in either raising pioneer regiments or attaching pioneer companies to regiments. The term "pioneer" has become synonymous with "Muzbi," and the *Hindustani word* for pioneer; and it will be difficult to get the Jat, Sikh, the Dogra, or better class of Muhammadans to enlist for pioneer regiments, for they will connect it with the term "Muzbi." Without being enlisted as pioneers or called "pioneers," my own opinion is that every (Goorkha and Punjab) regiment in the service would *readily* do the work of pioneers whenever called upon as efficiently and on the same terms of working pay as the two pioneer regiments now in the service.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Pioneer companies in regiments.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

While of opinion that more pioneer regiments than we now have in the army would be of service, yet I should also wish to see a pioneer company in each regiment, as I consider there should always be a certain number of men in every battalion trained to pioneers' duties, so that in the event of the corps being alone on any service, there would be skilled workmen always available if required.

Moreover, if the men of the pioneer companies were thoroughly trained to their work, they could act as instructors to the rest of the battalion; and by that means the whole army would receive a certain amount of training in what is daily becoming a more and more essential part of a soldier's duties.

Lieutenant-Colonel H. Worsley, 7th Bengal Native Infantry.

Pioneer regiments. Pioneers are not required at every point in a line of battle; therefore, if you want to employ them under a company system, you must often detach them from their regiments. With pioneer battalions, the general always knows where to lay his hands.

Pioneers should be low-caste men.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Seeing how useful pioneer regiments are, their number might, I think, be increased with advantage. I would like to see my own regiment made pioneers: their training as agriculturists makes them naturally handy with pick and shovel. When ordered to entrench ourselves in the Hurriab valley, it took us, with the limited amount of tools in our possession, exactly ten hours to encompass the entire camp with a parapet and ditch which would have proved a formidable obstacle to any enemy. Perhaps a pioneer company in every regiment would be more generally useful than increasing pioneer regiments.

Lieutenant-Colonel Williams, 14th Sikhs. L. H.

I would suggest additional pioneer regiments, as I do not approve of pioneer companies.

Lieutenant-Colonel Walker, 17th Native Infantry. R. J.

I am in favor of one or two more pioneer corps being added, not pioneer companies. I think the latter would not be popular in a high-caste Hindustani regiment.

Lieutenant-Colonel Rogers, Commanding Punjab Native Infantry. R. G. 20th

Of additional regiments; but I go further, and consider that every regiment should take its turn at road-making in the hills and be trained to every work likely to be of use in the field.

The present system gives rise to much discontent, the pioneer regiments so often drawing better pay and seeing more service than falls to the lot of many corps.

Lieutenant-Colonel Nerman, Commanding Punjab Native Infantry. F. B. 24th

I should prefer more pioneer regiments; but I think that the fact of the present pioneer regiments being composed of Muzbis might be prejudicial to raising pioneer regiments in the Punjab, except from that class. But call the regiments sappers, and there would be no difficulty. If a pioneer company was attached to every regiment, I don't think that it could be kept up to the mark. In fact, unless it was constantly detached from head-quarters, there would be no pioneer work for it to do.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

I am decidedly in favor of additional pioneer regiments in preference to pioneer companies in regiments.

I think that more regiments of that description are required, more particularly when the fact of our having a long line of mountain frontier is considered.

There is no reason why a pioneer regiment should not be composed of class companies, or any one of our Punjab infantry regiments be turned into a pioneer corps, though hitherto only low-caste Sikhs have been enlisted into these corps.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Of additional pioneer regiments.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Every regiment would be more efficient with one company equipped and trained as pioneers. A slight increase of pay might be granted to this company for the extra work and drill required of it. Or an extra pioneer regiment or two might be raised, one company from which to be attached to every regiment proceeding on service, remaining with that regiment during the campaign. The latter plan would, I think, be best, as in peace time the pioneer regiments could more readily be employed on Government works.

Major R. S. Robertson, 4th N. I., Officiating Assistant Adjutant-General, Allahabad Division.

I am in favor of pioneer regiments in preference to pioneer companies; and consider that it would be very desirable to raise additional regiments of this class, their merits being so well known.

Major R. A. Wauchope, 14th Sikhs.

Additional pioneer regiments. This branch of the service would not be popular with Sikhs, as this name "pioneer" is always in their minds associated with that of "Muzbi."

Major A. C. W. Crookshank, 32nd Pioneers.

I am of opinion that a certain number of pioneer regiments are indispensable, as, when properly trained, they form a valuable addition to the sapper force without weakening the infantry. I would certainly not add more than three or four in addition to the existing two to the Indian army.

But with this addition I would like to see every regiment carry its entrenching tools on its back instead of on camels. In the last campaign the entrenching tools of a regiment required 9 camels; and so cumbersome were the loads, that they were relegated to the baggage, and were not therefore forthcoming when wanted. The present entrenching tool is a great heavy, clumsy weapon, double the weight of, and not to be compared to, the pioneer tool. I would suggest that one or two companies in each regiment carry a light pioneer equipment, lighter even than the pioneers carry, and that the companies so equipped do the digging work required during their tour of duty, which should last from three to six months, and in a campaign perhaps less. The weight thus added would be 6lbs. per man; and he might be relieved of 30* rounds of ammunition out of his 70, and be kept generally as the reserve of the battalion.

In this way the men with the tools would be properly trained and have hardened hands; whereas the present farce of turning out a company once a year to dig a shelter-trench gives no practice, and the result is that a few minutes' work knocks the men up, and a howl is at once raised for 'pioneers.' The system I propose would meet the tactical views of the present day, which are against *speciality* corps, requiring all to be ready for any work, and which lay great stress on the influence of earthworks in the battle-field. The mere fact of one or two companies being so equipped need not prevent the other companies from taking a turn on the works when wanted.

Pioneer companies should take their share of all save detached duties.

Captain H. D. Hutchinson, 40th Native Infantry.

I would have more pioneer regiments.

Colonel B. Sale Hill, Commanding 1st Goorkhas (L. I.)

I think it would be better to have additional pioneer regiments.

Major A. Batty, 2nd Goorkhas.

Decidedly in favor of more pioneer regiments. Considering their usefulness and past services of the 23rd and 32nd Pioneers, it is a matter of surprise that more of such regiments have not been raised. Pioneer companies would not answer. Men of other companies would look down on them and their work, and begin to think that using the spade was beneath their own dignity; whereas every effort should be made to lessen this feeling as much as possible.

Major F. F. Rowcroft, 4th Goorkhas.

I would not increase the number of pioneer regiments, but I am in favor of adding *pioneer companies* to certain special regiments. The pioneer company should be separate from the regular battalion companies on field service, but in *quarters* might parade for drill and

* 9lbs. 6oz., I think.

exercise mixed with the battalion companies. Pioneer companies would be well suited to Goorkha regiments, but would, to be efficient, require an extra establishment of Native and non-commissioned officers.

I prefer four or more men per company as pioneers.

No; not "pioneer" corps, "Muzbis" called as such, which has in this country come to mean men enlisted from a lower class and caste. But I would have all corps, as far as is practicable, instructed in these (now more than ever) necessary duties. Certainly one company per regiment taught this work.

I certainly would not have pioneer companies in regiments. All the men in a regiment ought to be exactly on the same footing. Pioneer companies would be the cause of jealousy and bad feeling.

Of additional pioneer regiments. The change would require to be made with tact, as the existing pioneer regiments being (I believe) mainly composed of low-caste men, it should be clearly explained to the men of the regiments which Government purpose to equip as pioneers that an honor is conferred, and that their claims to be sent on service are greater than regiments not so equipped.

I think additional pioneer regiments would be more advantageous than pioneer companies in regiments.

Additional pioneer regiments, if any more are required. A Native regiment will do any work required willingly and cheerfully, as has been proved over and over again. To attach pioneer companies to them would be apt to make the men in other companies fancy that these men were specially meant to do pick-and-shovel work. Hence would arise jealousies and difficulties that had much better be avoided.

Additional pioneer regiments. The whole regiment should be alike, and every man should be ready to do as his fellows do. I dislike separating off companies, and it is an especially bad thing to do as regards digging. At present all dig; but if companies were put apart to labor and dig, the other companies would not care to do it. Every man in a regiment should do all work required of the regiment. I think Government should make many more regiments pioneer regiments.

I am in favor of pioneer companies in regiments; but I think it would add greatly to the efficiency of the army if every regiment in the service was instructed under engineer supervision as sappers and pioneers, and if as much attention was devoted to such instruction as is now devoted to musketry.

I am in favor of a pioneer company in every regiment.

I do not see that any good could be obtained by additional pioneer regiments. Every man in Madras regiments can use the pick and shovel, and turn his hand to any kind of work. My men built the lines at Nowgong, and are now helping to build the lines here.

I am in favor of a pioneer company to each regiment. Employment might be found for the men on the station roads and public buildings.

There are no pioneers in the Madras army. A few might be introduced into each regiment with advantage perhaps; but the whole of a Madras regiment, if given the tools at once, becomes a working party, and I don't know what more pioneers could do.

I admire the pioneer regiments of the Bengal army that I have seen very much, and think them most useful corps.

I think it better to have separate battalions of pioneers than pioneer companies in regiments, because I think battalions should be uniform in duty and equipment, and also because you are more likely to get the right stamp of men when they are kept separate. We cannot get recruits of the Madras sapper class in our Madras infantry regiments.

There are none in the Madras presidency. The only pioneer regiment is the corps of sappers and miners.

Strongly in favor of a larger proportion of pioneer regiments.

Neither of these arrangements seems desirable. All regiments should be accustomed to, and required to perform, manual labor on military works.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Baisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Lieutenant-Colonel B. R. Chambers, Commanding 6th P. I.

Major R. B. P. P. Campbell, Corps of Guides.

Major A. G. Ross, Commanding 1st Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Offg. Comdt. 9th Madras N. I.

Colonel G. Hearn, Commandant 16th Madras Native Infantry.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

Lieutenant-Colonel F. H. Tyrrell, Commanding 37th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Major E. Faunce, Commanding 14th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little,
Commandant 26th Bombay Native
Light Infantry.

I think a pioneer regiment to be a most useful body of men from what I saw of the 23rd (Bengal) under Colonel Chamberlain in Abyssinia.

No such regiment exists in the Bombay army; but I am strongly in favor of one or more.

I think pioneer companies would be thrown away; but four men or even two per company to each regiment equipped as pioneers would be of much advantage. I would have them properly instructed as sappers.

Colonel S. Edwardes, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

I am in favor of additional pioneer regiments. I am of opinion, however, that all infantry regiments should be instructed more than they are at present in throwing up earthworks, constructing obstacles, making roads, &c. There is always a great deal of time and labor lost owing to the ignorance of the men and the want of practical superintendence. I would recommend two pioneers per company and a non-commissioned officer in charge for each regiment; the whole of these men to be thoroughly well trained in a sapper corps and to hold certificates of competency. They would simply be pioneer instructors and draw an extra allowance.

Colonel W. Bannerman, 4th Bombay Rifles.

I am in favor of pioneer regiments, and not pioneer companies in regiments.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

I have had no experience in either, but am of opinion that a pioneer company would be most useful in a regiment, the instructed men acting as foremen of gangs in the event of road-making or entrenching work having to be done.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Pioneer companies in each regiment or battalion would be preferable to more pioneer battalions.

There are no such battalions in Bombay.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

I am not in favor of either. What appears to me to be wanted is a few skilled men, well trained, as superintendents of work in field and cantonments; the regiment itself supplies the labor. I think 10 or 12 thoroughly trained men would be all that would be practically necessary per regiment.

Colonel Cresagh, Commanding 19th Bombay Native Infantry.

I am; they are most useful regiments, not alone in war time but in peace, when they might be employed occasionally on public works. I would also have a pioneer company to all regiments well practised in the duty of a sapper, the non-commissioned officers of which should be skilled artificers.

Colonel A. Carnegie, 31st Bombay Native Infantry.

There are no pioneer regiments in the Bombay army; but I consider it would add to the efficiency of Native regiments if a pioneer company were introduced in each.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Yes, decidedly, of pioneer regiments and a pioneer company in regiments, not pioneers. If this latter cannot be carried out, there ought to be pioneers in every regiment, somewhat the same as in British infantry. I believe also there ought to be more distinguishing badges and titles given to Native regiments. Any corps proceeding to a foreign country on service should get a badge for it; and any regiment doing good service on a campaign should be made grenadiers, pioneers, light infantry, rifles, or fusiliers. There are no fusilier regiments in the Indian armies; and I would arm such regiments with short rifles. I am aware a great number of distinguishing badges, such as regimental buttons, have been done away with in the home service; but I view this as a great mistake and a want of knowledge of human nature, as anything which promotes *esprit de corps* can hardly be over-estimated, and such distinctions most undoubtedly do to a considerable extent. The Natives of India are particularly fond and proud of them, and besides they are very cheap.

Lieut.-Col. O. V. Tanner, Commanding 29th Bombay N. I.

No; I think all regiments should be taught the use of pioneer tools.

33. Do you consider that it would be desirable to obtain a younger class of men as Native officers than is realized under the present system; and if so, what plan would you suggest?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

I consider that the Native officers are, as a class, far too old, and that it is most desirable to introduce a younger stamp of men. At the same time, I think the remedy lies in a great measure in the hands of commanding officers of regiments, who, by a more careful selection of non-commissioned officers, have it in their power to fill up the commissioned grades by younger and more active men than are generally to be

found amongst Native officers. The more rapid promotion is made, the more likely are good men to be attracted to the service.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

I consider all my Native officers young enough. As soon as one becomes inefficient, I pass him on to the invalid establishment; and I am very careful not to promote any who from age or any other cause are likely to be inefficient. The commandant is in fault when the Native officers are too old.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Do away with the grade of jemadar; give commanding officers full power to promote to subadar *the most fitted man*, merely requiring confirmation of Government without questioning his selection; direct commission men now obtained are quite young. The three of this class in this regiment are about 24, 25, and 28 years of age.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Without advocating the retention in the service of men who are past useful work, I am of opinion that, generally speaking, a Native officer should be of mature age and of reasonably long service. My best Native officers, and I have some *very good* ones, are elderly men. Promotion by selection might advantageously be introduced into the army.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

I am of opinion that if the number of European officers, as suggested in answer to question 4, were always kept up in each battalion, that is a captain to each double company, and subaltern to each single company, and the pay of the non-commissioned ranks increased in proportion to the duties now required of them, the Native officers of companies might with advantage be done away with altogether; and the chain of responsibility between the European officers and the non-commissioned officers would thereby be better maintained than at present.

But if this is not considered to be practicable, then certainly I think that the Native officers should be younger men than is now generally the case. In fact, promotion to the commissioned grades from the ranks should be the exception and not the rule, the majority of the Native officers being obtained as suggested in answer to question 28, and promotion from the ranks given only for distinguished service in the field, or on account of marked ability and energy.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Undoubtedly. But under a system where men are compulsorily transferred to the reserves after 15 years if sepoy, and after 20 years if non-commissioned officers (*vide* answer 18), the Native officers will necessarily be younger, and probably quite young enough.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

I do not think young officers are the unmitigated blessing that many people regard them. I must not be understood to prefer very old officers; but there is a medium of age, say from 35 to 45, which, whilst it gives experience and inspires confidence and respect, is yet not too advanced to undergo fatigue and hard work. Promotion by selection could always secure officers being men of about that age. I have not found that old heads on young shoulders are more numerous amongst soldiers than other people.

Lieutenant-Colonel L. H. Williams, Commanding 14th Sikhs.

I certainly think a younger class of Native officers is desirable; and I recommend that commanding officers be allowed more power in choosing men from all ranks to fill the commissioned grades, men showing fitness for the position of Native officers being promoted more rapidly through the non-commissioned grades.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

No; men of a certain age are required, so as to have weight and influence with their juniors. Young men are smart, active, and showy on parade. Still I think at a difficult crisis they would often fail to maintain discipline.

Lieutenant-Colonel R. G. Rogers, Commanding 20th P. N. I.

No; the present system, properly worked, gives sufficiently young men.

Lieutenant-Colonel F. B. Norman, Commanding 28th Punjab Native Infantry.

I think, now that the full rate of pension is given after 32 years' service, we can always, with an occasional direct appointment, have our Native officers sufficiently young. I am not in favor of too many young Native officers. The younger men may look smarter, but they are not always really so; and the older men have more influence with the sepoys, and act as a sedative to the younger men. The non-commissioned officers of the Native army are, in my opinion, very badly paid, and, if all hope of promotion is taken from them, they will become discontented.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

The advisability of having a younger class of men as Native officers is beyond all question; but the best means of obtaining them is not so clear.

My own idea is, that by gradually bringing in a certain number of young Native gentlemen with direct commissions, and at the same

time exercising more care and discrimination in the selection of men for promotion from the non-commissioned ranks than is at present customary, we should soon obtain what we want.

The great difficulty is to persuade commanding officers that the fact of an old soldier having worked his way to the top of the roll of havildars does not of itself constitute a qualification for the position of Native officer.

In the first place, a limit as to age should be fixed. No man should be promoted to be a Native officer who is beyond 35 years of age. I am persuaded that if the seniority system were less rigidly adhered to, and merit more considered, we should soon have a more efficient class of men as Native officers.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Under the present system, a Native officer enlisted as sepoy at 18 or 20 becomes entitled to a retiring pension after 32 years, or when about 50 years of age. Being a selected man all through his service, he should not under ordinary circumstances be before that age inefficient from age or infirmity, even for active service, while quite fit anyhow for the 2nd or depot battalion. If half the Native commissions were given direct to young Native gentlemen, and half, as formerly, to men from the ranks, a judicious admixture of the thoroughly trained soldier of middle age and the younger and more eager aspirant would be obtained. Commanding officers having a free choice of selection for the commissioned grades of the *best* men, irrespective of service, would also help in improving the stamp of the Native officers raised from the ranks.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Too young Native officers are apt to be wanting in weight and influence with the men. If commanding officers are empowered to use their own judgment in promoting to jemadar the best man among the havildars without any reference to his standing on the roll, there would be no fear of the commissioned ranks being of too great age. Failing the kind of man among the havildars, there is always the head-quarter list of candidates for direct commissions to fall back on.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

I certainly do. As to the means by which this might be effected, I would submit that a great deal rests with the commanding officer, who has it in his power to promote men of a certain age and standard of efficiency. Much might be done by reducing the period of service for pension in the commissioned grades, and compelling Native officers who are not every way qualified to retire after that period is reached.

Major R. A. Wanshope, 14th Sikhs.

By insisting on commanding officers promoting only young men and passing over without sentiment those who do not in every way promise to become first-rate Native officers.

Major A. C. W. Crookshank, 32nd Pioneers.

It would certainly be desirable to have generally a younger body of Native officers; and to ensure this, Government have only to express the wish, and the Adjutant-General's office to enforce it. The question seems to imply that the age of Native officers is due to the existing system: it is due to a past system which up to within the last 6 or 7 years forced a seniority system upon commanding officers; for even when selection was recommended, it was hedged with so many difficulties in the scrutiny awaiting the promotion rolls, that commanding officers refrained from running too far down the list. It was forgotten that where a non-commissioned officer might be perfectly fit for promotion this year, he would be utterly unfit for his position 5 or 6 years hence. This is more generally admitted now, and we are on a fair road towards improvement.

But I would press upon the Commission not to run away with the idea that the young Native officer is the *sine quâ non*, the fact being that the young Native officer in the absence of clear superiority is next-door to useless from want of influence and professional knowledge, and he fails to command, a ready allegiance from the grey-bearded sepoy or non-commissioned officer.

A few general rules need only be added, *i.e.*, recommendations for jemadar should be confined to men with service from 10 to 20 years, and for subadar from 15 to 25. I would not promote older or younger. Some such proviso, coupled with a voluntary pension after 21 years, (obligatory when unfit) would soon reduce the age of Native officers to reasonable limits. Efficiency is of course most essential, but no less so is contentment in the various ranks of the regiment, and the certain knowledge of all reasonably ambitious hopes being realized.

Captain H. D. Hutchinson, 40th Native Infantry.

Yes, most certainly. Promotion by selection should be the rule. At present commanding officers' hands are tied by the seniority rule; and as long as a man has a clean sheet, and is "fit," he cannot well be passed over. It should not be a question of "who is fit" or "unfit," but of "who is the *best*." If it were an understood thing that merit should be the guide in future, and not seniority, it would be a great incentive to every man to do his *best* at all times.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Batiye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

As far as Goorkha regiments are concerned, I would obtain Native officers by selection from the most qualified; but as Goorkhas go in for long service, they would in any case be probably much older men than would be found in other regiments.

Certainly; but I think the working of G. O. No. 31 of 1878 regarding compulsory invaliding of men of over 32 years' service will have the desired effect.

Yes; most desirable in the ordinary Native line regiments. A younger class of men for Native officers could be procured by giving a larger number of direct commissions to young men of good family, also if commanding officers would not, as a rule, adhere so strictly to the *seniority system*. There are plenty of men in the ranks low down the roll far better fitted for promotion than their seniors. Scores of men are promoted every year to be non-commissioned officers and Native officers for very often no other reason than that, "Oh, he is not a bad character; he is not very bright; but there is *nothing* against him," &c., quite irrespective of their qualifications to command men, and to enforce their own orders and those of their superiors. I am of opinion that, in *Goorkha* regiments more particularly, the *seniority system* should be ignored; for it is amongst some of the very youngest soldiers in the ranks that you will find the best educated, the smartest, and most efficient men, particularly amongst the better class of *line boys*, who have had in most cases the advantages of a fair English education in the regimental or other schools. These are the men best fitted for promotion.

Colonel R. Blair, 3rd Native Infantry.

Yes, I do; and would suggest that commanding officers be allowed to recommend non-commissioned officers of all ranks who are fitted for promotion to commissioned officers.

Colonel H. Boistragon, Commandant 4th Sikhs.

It would improve the status of the corps, and be a *military* advantage as respects drill, &c., &c., but politically dangerous. Financially, we cannot revert to the British officer system, and therefore Native officers must be retained; otherwise I would dispense with them—certainly that of subadar or jemadar, one or the other: for further detail, *vide* reply to question 28.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

I would certainly retain Native officers in the service till they got past their work. Young Native officers are generally smarter on parade than old ones; but they have not the same tact and experience; and often fail in the management of the men. On service I prefer the old ones; many of them have nothing whatever to learn from us in that respect.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

No; I do not. I advocate promotion going in regiments; but old men who are likely to break down should not be selected.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

In very many instances it would be desirable to see men reach the commissioned grade at an earlier age. If a reserve system was introduced, a certain number of Native officers would probably be enrolled in it; and this would tend to accelerate promotion.

A small retiring pension, which Native officers could avail themselves of at pleasure, after fixed periods of service, would be looked upon as a boon, and would help promotion.

A Native officer who happens to be strong and healthy, but who wishes to retire, is entitled to nothing, even though he may have done good service to Government for a round number of years. This seems somewhat hard.

Major R. B. P. P. Campbell, (Queen's Own) Corps of Guides.

I consider the majority of Native officers (at least in my own regiment) do their work exceedingly well, and I look upon them as very valuable servants of Government. Too many youthful Native officers would not do, as they would not have sufficient influence with the men. Who ever saw a "jirgah" of a tribe or village composed of young men?

The late order enabling commanding officers to recommend the retirement of Native officers of 32 years' service is quite sufficient to prevent the Native officers of any regiment becoming too ancient.

Major A. G. Rose, Commanding 1st Sikhs.

Where Native officers are old and broken, unable to march and keep up, or where their brains have dulled, I do consider a younger class desirable. But in many corps the Native officers are not too old. If bringing in of direct commission-holders would make the average younger in years, then old broken men ought to be made to take their pensions. Others again might join the reserve (*vide* pension proposals), question and answer No. 20.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

I do not think it would be advantageous to the State or desirable to place young aspiring men into the grades of Native officers; for the absence of hope for further advancement and their subordinate position would lead to discontent.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

Colonel L. W. Buck, Command-
ant 20th Madras Native Infantry.

Colonel W. A. Gib, Command-
ant 25th Madras Native In-
fantry.

Lieutenant-Colonel F. H.
Tyrell, 37th Madras Native In-
fantry.

Lieutenant-Colonel P. A.
Carnegy, 39th Madras Native
Infantry.

Major E. Fancee, Commanding
14th Madras Native Infantry.

It would certainly be desirable to obtain a younger class of men as Native officers than there are obtainable under the present system; and I would recommend that every Native officer after 50 years of age should be transferred to the pension establishment.

No; I have answered this in number 28. What more is wanted? The regiments are as good as they can be; and good men (and many there are) would be disgusted at being superseded by youths, perhaps smarter than themselves, but with less weight and character. Good men look forward to some reward. Our Native officers are not now too old. Perhaps subadar-majors in some regiments are of long service; but it is not desirable to have a man in that position too young.

In my regiment the ages of the Native officers vary from 41 to 52 years. I find them fairly strong and active. It would be an advantage to have them a few years younger; but I do not see how this result is to be obtained without increasing the pension establishment more than would be advisable. Native officers are all picked men; and should preserve their health and strength up to 50 years of age.

I think it is essential that Native officers should be sufficiently young to be active; but this is not determined by mere age or length of service, some men at 50 being physically younger and better men than others of only 45 or even less. I would make the retirement of Native officers compulsory after 32 years' service, unless the commandant certified that they are fit for another term of three years' service, at the end of which they should positively go. But with the present work and rate of pension, I think most of them will be quite willing to go after 32 years' service.

In the case of pensioners, there should be an intermediate rate of pension between Rs. 15 and Rs. 25; and also in the case of subadars. Selection is now the rule; and if acted up to, the Native officers ought to be young enough.

Here I may perhaps be permitted to say that the pay of non-commissioned officers, including lance-naiks, requires readjustment.

To begin at the bottom, I think a lance-naik should get at least Rs. 1 extra. At present, although he has a great deal of responsibility and hard work (naiks and lance-naiks have more guard duty than any other grade in this service), he actually in many cases draws less pay than a private. For instance, a lance-naik of five years' service draws Rs. 8 pay; a private of nine years' draws Rs. 9, and of 15 years' Rs. 10. This ought not to be.

I should like to see the pay of the non-commissioned raised even by reducing one Native officer per company and utilizing his pay in that way, and a British officer posted to each company.

I think it would be desirable; and in the north of India I would have a military college where young Native gentlemen, candidates for commissions, should get a practical training for the army, and should be given commissions after serving as probationers for a certain time in the ranks.

In Madras we can get no better men than we get now, that is men from the ranks, and no better nor worse than the men whom they command.

We want a younger class, and we are making efforts to obtain such in 39th by strict examinations for promotion to grade of havildar in parts i, ii, and iii, F. E. &c., &c., by a board, and then by selection from these again for Native officers by examination. If wing commanders report unfavorably on a naik, he is not examined for promotion to havildar. The same course is pursued with the havildars, points being given for answers. In this way it is hoped we shall succeed. The non-commissioned officers did not like the system at first; but as they are examined by European officers, and points given according to answers (4 being the highest for each answer), they have become reconciled to it. I think this system might be extended with great advantage to the army generally by having a garrison instead of a regimental board of examiners for promotion to Native officer. I think they should be examined on parade as well; points being given for words of command, for correct drill, &c., &c. The havildar obtaining the highest number of points in all the subjects to be promoted.

The subject of this question is closely connected with reply 26 (clause viii) as to suggestions for the improvement of the efficiency of the Native army, and should be taken with it. An improvement in the stamp of Native officer, men of some little education, trained to show some self-reliance, self-confidence, and last, but by no means least, the European officers. The Native officer of the present day is paid very highly for the performance of duties which it is a pretence to say he, as he is at present, performs or can perform. As a class, he is utterly wanting in education, self-reliance, and impartiality. The first

no one will pretend he has. The second and third I ask how can he have? He has been in leading strings all his life, till in his middle, nay, almost old, age he is promoted. The system under which he grew up called for no exhibition of self-reliance or self-confidence, but rather repressed them; and as to impartiality, how can a man with his family ramifications throughout his regiment, and who spends 20 out of 24 hours in the lines in the midst of all the squabbles and scandals from which his connections and family are not free, suddenly assume the dignity and show the impartiality his position require, because he has donned a red coat and sword? I say, with a strong sense of duty, because of that it is not what is hoped, that the wing commander and not the Native officer commands each of the four companies of his wing, and does the entire work, to the minutest detail almost, that he did as commanding a single company in former days. He should be chiefly a supervising officer; he is actually the executive. To obtain younger Native officers, if the present system of promotion is to be maintained, the plan I would suggest is detailed in clause viii of reply 26; but I would advocate another system altogether. An essential in any case is that Native officers should be pensioned on reaching 50 years of age. It now frequently happens that men who are admittedly quite unfit are allowed to remain on solely for the purpose of earning a higher pension, not by giving efficient service in return, but by living a certain number of years—a negative merit a Government should hardly be expected to reward its servants for. In no service in the world, in no profession, can men now obtain advancement without fitting themselves for it except in the Native army. A British officer has to pass a competitive examination before he can obtain a commission; and till he has reached the grade of major, he has to pass successive examinations to show that his professional attainments fit him for promotion. Surely it is not less necessary that the Native should prove by some test that he is qualified for the highly paid and honourable position to which he aspires; and even in the Native army the only rank for which no test of any kind is required is that of Native officer. In the civil administration Natives who have passed comparatively high tests eagerly seek employment in posts the salaries and pensions of which are far less than those of a Native officer; and yet there is no dearth of candidates, but rather an excess. I would lay down tests—(a) educational, and (2) professional. Competitive examinations to be held at certain periodical intervals; tests papers to be furnished from army head-quarters, the professional ones being framed by selected regimental officers. Part of examination to be practical, part written. Any hawdard or mawk to be allowed to compete, provided his commanding officer permits. His refusal to be final and unquestioned. A man with sufficient education and the drill-book by heart might not for other reasons be fitted to be a Native officer. Jenadars should be required, under similar restrictions as to commanding officer's permission, to pass an examination (not competitive) for promotion to subadar.

A very essential thing is that men promoted from the ranks should not be posted to their own regiment. A list of passed candidates would be at head-quarters, from which they should be posted to vacancies as they occur. With us the men and their families live in lines. A Native officer may have, in fact always has, connections or relations in his own or other companies. He is forced to live in these lines cheek-by-jowl with the very private of his company. His womankind quarrel about a trifle as other women do, their respective owners, one perhaps a subadar, the other a private of his company, are helplessly drawn into it. Now, under such circumstances, can a man be expected to maintain his position, and to perform his duties with impartiality? Native officers should not be permitted to live in the lines of a regiment, although of course they must be near them.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

It is very desirable that the Native officers should be efficient; but it is of even more importance that the sepoy should be contented; and this they could hardly be if the prizes of the service, commissions as officers, were given exclusively either to very young soldiers or to individuals by direct appointment. Much might be done towards reducing the age of Native officers if commanding officers would exercise more freely their right of selection in making promotions to and in the non-commissioned grades. Instances have, however, come under my notice where men who had been rapidly promoted from grade to grade, and become Native officers in an unusually short period, failed to prove themselves fit for the higher and more responsible duties. On the whole, I am of opinion that the existing system, judiciously administered by a competent commanding officer, offers as satisfactory a method of filling the commissioned grades as any that could be devised.

I think the present system now in force in the Bombay army works well—that is, promotion by selection—and needs no alteration.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

Colonel S. Edwardes, Commanding
2nd (Prince of Wales' Own)
Grenadier Regiment Bombay
Native Infantry.

Yes; but the system advocated in this paper would permit of passing an old man into the reserve and thus maintain a younger set of Native officers. I do not think that, as a rule, very young men make good Native officers. The best are those from 15 to 25 years' service—men who have had experience and seen service, and who are looked up to and respected by the lower ranks.

My experience of Natives and Native officers has led me to the conclusion that they are deficient in the qualities required in a company leader, as the term is understood by us. They make excellent soldiers, but not leaders, being essentially dependent. It is the want of these qualities that has contributed in no small measure to our maintaining our hold on the country, more especially during the great rebellion of 1857; and it is well that it should be so.

It is in the interests of discipline and the well-being of the army in many respects that there should be Native officers; but for leaders the European element must be largely maintained—more so than at present.

Colonel W. Bannerman, 4th
Bombay Rifles.

I am not in favor of a younger class of men as Native officers than is realized under the present system. A very young Native officer has not the control and influence over the men at all times willingly accorded by them to older Native officers. In exceptional cases, or in the case of a regiment ordered on service, a subadar of 28 years' service might be allowed to retire on a pension of a somewhat lower rate than the full pension due after 32 years' service, so as to make room for a younger and more active man.

Colonel G. W. Hanson, Com-
manding 9th Bombay Native
Infantry.

Native officers are by a late order called upon to retire after 32 years' service. Stagnation in promotion is thus prevented, and officers are not allowed to remain on in the service beyond the age at which they are well capable of performing their duties. I do not consider any further change on this point necessary.

Colonel H. H. James, 10th
Bombay Native (Light) Infantry.

It is always the interest of a commanding officer to obtain the *best* Native officers he can. If commanding officers are allowed freely to pick out the best men for promotion, I do not know that anything will be gained by their being necessarily young. I am not an advocate for *very* young Native officers. If a man is active, intelligent, and fit for his work, as a rule he has better judgment, and is more to be depended on when of more mature age; but every Native officer should be at once pensioned or got rid of if *any way unfit*.

A fixed age or certain length of service does not guarantee *efficiency*; and this alone should decide if a Native officer is fit to remain longer or not.

Colonel R. Mallaby, Com-
mandant 13th Bombay Native
Infantry.

In the Bombay army there is no system which places any restriction on the age at which men may be promoted to Native officer. I have promoted men to Native officers in 13 and 14 years' service. I would do so in less in exceptional cases. I don't think any man should get his first non-commissioned grade under three years, or be less than two years in each successive grade, nor a Native officer under 10 years' service. Under most favorable circumstances you cannot make a Native officer in a day. You have not only to teach him discipline under all circumstances, but he has himself to earn by his life and the justice of his conduct towards the men the respect of the men. This is a matter of time. The early promotion of such men causes no heart-burnings amongst the less fortunate.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Such a system is highly desirable; and can alone be effected by selection, as is the case in the Bombay army.

Colonel A. Carnegie, 21st Bom-
bay Native Infantry.

I consider the regulations in force in the Bombay army are ample for the purpose of enabling commanding officers to obtain a sufficiently young class of men of Native officers.

Colonel J. Fairbrother, Com-
manding 22nd Bombay Native
Infantry.

Yes decidedly; and have the commanding officer unhampered with rules regarding their selection and promotion. Make them look to him as their only friend, hope, and prop. This, and selection of European officers, was the sheet-anchor and mainstay of what was first called the "irregular system," and we all know what splendid service they performed. But when the whole army was turned into "irregulars," selection was impossible, and the power of the old "irregular" commander was never bestowed on the new one; and with what results we all also know. If the commanding officer finds he has promoted a man to jemadar or subadar, who becomes idle and indifferent—a most common occurrence—let him have the power of making him take his pension; and this will also most effectually stop that pernicious and common habit of anonymous writing.

Lieutenant-Colonel O. V.
Tanner, Commanding 29th Bom-
bay Native Infantry.

I think that Native officers will be found young enough under the present system of making all retire after 32 years, and those found unfit before.

84. Do you consider that the present uniform of the Native soldier meets all requirements?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

Pretty nearly all; but I consider that a great-coat should be supplied to each soldier by the State.

Colonel H. S. Obbard, Com-
mandant 41st Bengal Native
Infantry.

Yes, as regards regiments that wear turbans and loose trousers, except that the warm clothing should be drab, instead of red. Forage caps and tight pants I consider quite out of place and unserviceable. There are certain stations where from excess of cold additional clothing is necessary for daily wear and sleeping; and others where from excess of wet water-proofs are required. These should always be supplied by the State.

Colonel T. Bohagon, Commanding 30th Punjab Native Infantry.

I have no fault to find with the clothing now that it is made up at regimental head-quarters. The coat and trousers should be given together at the same time, and not one in every alternate year; one is new while the other has had one year's wear. Great-coats should not be made an article of half-mounting, but be supplied by Government. The sepoy could then keep himself supplied in stockings, for without stockings it is impossible to prevent men getting sore feet, which constitutes a very serious drawback to the efficiency of regiments.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Yes, excepting in the matter of boots. Government should supply at a fixed price either boots or shoes of English leather and manufacture. Water-bottles should also be supplied; also water-proof sheets.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

No, I consider the present so-called Zouave jacket issued biennially to the Native soldier by no means either useful or becoming. It is cut altogether too scrumpily, and is so tight both across the chest and back, that at musketry when he should have the free use of the body, he appears to be confined.

The tunic with a properly cut "ba-quo" as worn by the *Chasseurs de Vincenne* is a much more sensible garment, as the upper part is made so as in no way to impede the action of shoulders and chest, while the "basque" is low enough to cover and give protection to the loins.

This coat, however, with the blue serge pantaloons, should be retained exclusively for "full dress" occasions. On all ordinary duties, and regimental and brigade parades for exercise and manoeuvre, I consider a drab serge frock and pantaloons, the former of the same shape as the serge frock issued to the British soldier, the best dress for the Native army. I consider also that, though it would cost Government possibly a trifle more, this dress might be issued biennially, the red tunic and blue pantaloons being issued together on alternate years with the drab uniform.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Yes, if only the shoeing question were satisfactorily settled, and if no attempt is made to combine the dress for peace and war. In garrison you want neat, well-fitting coats, gaiters, &c. On service you require underclothing, &c., suitable to the climate and season, with a loose khaki jumper to go over all.

When troops go on service, Government should be prepared to issue suitable clothing gratis.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Yes, I think it does, except in the matter of boots. On a campaign Native-made boots or shoes barely last a month, and there is necessarily much difficulty in replacing them. Every soldier should be provided annually with a pair of strong English-made boots, and on field service a warm jersey piece is equally necessary.

Lieutenant-Colonel J. H. Williams, Commanding 14th Sikhs.

Yes, with the addition of a khaki suit of drill to be worn over the winter clothing for active service.

Lieut.-Col. R. J. Walker, 17th N. I.

I think the clothes, especially the coat, ought to be much looser.

Lieutenant-Colonel H. G. Rogers, Commanding 20th Punjab N. I.

No [vide reports C, C1, C2, C3, C4, C5, C6, C7].

Report C.

Dated Rawal Pindi, 1st August 1865.

From—LIEUTENANT-COLONEL C. H. BROWNLOW, Commanding 20th Punjab Infantry,
To—The Adjutant General in India.

In obedience to your circular No. 105N. of 22nd ultimo, I have the honor to report, for the information of His Excellency the Commander-in-Chief, that the new pattern Zouave uniform has not yet been issued to the regiment under my command as Government clothing.

The material for coats for 1865-66 has been received and is in course of preparation. The issue of knickerbockers by the clothing department having been suspended and the old pattern trousers offered instead, application has been made for compensation in money for 1866-67, and cotton knickerbockers which can be worn both in summer and winter will be provided for the men.

As to the question of the new pattern uniform being suitable and popular, I am of opinion that the Zouave jacket does not answer the purpose for which it was introduced, inasmuch as it adds neither to the comfort nor the appearance of the Native soldier, who would much prefer the tunic which protects the loins and the neck and is far more becoming to him than the former.

The scant proportions of the Zouave jackets, which perhaps set off a small dapper man, make a stout big one look unsoldierlike and undignified.

A waistcoat or "cummerbund" might improve the dress; but, all things considered, I think the coat best adapted to the sepoy, and one which suits the knickerbocker trousers admirably, is a tunic made exactly like the red serge frock of the British soldier.

Knickerbockers or loose trousers of American drill with short leggings or gaiters reaching to the ankle only and Native shoes have been in constant wear with my men since 1863 (June) and found to answer in every respect, being a costume at once serviceable, nice-looking, and very popular.

The spat or gaiter covering the instep is in my opinion utterly unsuited to the Native and a source of needless trouble to him to keep in order; it also entails the addition to his kit of two pairs at least of half boots which are no use to him except on parade, of which he can ill afford the expense, and which

cannot be compared in any practical respect with the more comfortable Native shoe, cheap and easy to procure, light to carry in havresacks or kit bag, and in harmony with the oriental character of the dress.

In reply to the 2nd paragraph of the circular, I beg to state that a change of color from drab to red uniform would not be popular with the officers and men of the regiment.

Report C1.

Dated Delhi, 31st January 1872.

From—MAJOR R. G. ROGERS, Commanding 20th Punjab Infantry,

To—The Adjutant-General of the Army.

With reference to your memorandum published in division orders of the 26th instant, I have the honor to report, for the information of the Right Honorable the Commander-in-Chief,—

- 1st, that in my opinion the great-coat should be rolled and worn like a horse collar over the left shoulder and with its ends on the right hip;
- 2nd, that puttees or gaiters not attached to the knickerbockers and covering the instep are a mistake, and that after several years' trial in the field and in quarters, I consider the knickerbockers (with stout cloth gaiters attached) worn by the regiment under my command the most serviceable and comfortable that can be adopted;
- 3rd, that I believe a stout Native shoe with the stiffening of the heel outside, to be best adapted to the Native soldier. In it the regiment has made long forced marches and has suffered little from sore feet. It is procurable in every city, and is easily taken off to ease the feet or allow of removal of dust or gravel.

Report C2.

Dated Delhi, 18th September 1872.

From—MAJOR R. G. ROGERS, Commanding 20th Punjab Infantry,

To—The Adjutant-General of the Army.

As requested in your memorandum, "Clothing," No. 2597B. of 18th instant, I have the honor to report, for the information of the Right Honorable the Commander-in-Chief, that I consider the white leggings worn by some regiments of Native infantry utterly unsuited for service. Men dislike them as a source of useless trouble and expense. They very soon soil and become uncomfortable and unsightly. They are very liable to come down the legs, and the flap which goes over the foot heats the foot and retaining between it and the instep the dust which rises at each step acts like sand-paper on the bare skin (boots being seldom worn on service). They are very liable to loss when taken off in crossing streams and take long to put on again, especially when the men's fingers are at all cold or numbed. They are not stout enough to protect the legs from thorns.

In fact, of so little use are they, that, as far as I have seen, they have at once been discarded by regiments proceeding on active service or on a march, and were so occasionally even at the camp of exercise, where every attempt was made to keep up appearances.

Report C3.

No. 100, dated Delhi, 21st September 1872.

From—MAJOR R. G. ROGERS, Commanding 20th Punjab Infantry,

To—The Adjutant-General of the Army.

As required by your memorandum, "Clothing," No. 2586B. of 18th instant, I have the honor to report, for the information of the Right Honorable the Commander-in-Chief, that I do not believe that the Native soldier would be benefited by the establishment of a boot and shoe factory at Cawnpore.

On reference to Major-General Turner's report attached to the memorandum above noted, it appears—

- 1st, that the estimated cost of boots and shoes is much higher than the present average (paragraph 8);
- 2nd, that it remains to be proved whether the longer duration in wear of the factory-made boot and shoe will compensate the soldier for their additional cost (paragraph 9);
- 3rd, that with all the best efforts of care and supervision there will occasionally occur disappointments, and objection arise which may lead to dissatisfaction.

These are all points of objection. With reference to the two first, owing to the great rise in cost of living within the last few years, Rs. 7, the pay of a sepoy for the first six years of his service, by no means represents the value it did when that rate was fixed. The sepoy is fully taxed in the provision of the necessaries he has to keep up, and cannot afford to pay for the experience required to prove the advantage of factory-made boots and shoes. The third objection is insurmountable.

Referring again to paragraph 9 of the Major-General's report, I cannot see what portion of his clothing could be dispensed with by the Native soldier in lieu of which boots and shoes could be supplied at the cost of Government.

He only receives a coat one year and trousers the next, and can spare neither. His summer clothing, his head dress, his havresack, boots, great-coat, &c., are paid for by himself. The only point in favor of a Government factory would be cheapness; this is not secured. The boots and shoes cost more, and the harness and saddlery factory gains by disposing of a quantity of good leather unsuitable for harness, &c., at a good price, to the Native soldier, who is to ascertain by experience (at his own

cost) whether he gains or loses by the transaction. If factory-made boots and shoes could be issued free of cost to one or more of the regiments proceeding to the camp of exercise at Hnssun Abdool, a committee of experienced officers might judge of their superior durability, and from it of the probability of the success of the proposed scheme as a benefit to the Native army.

Report C4.

Dated Delhi, 11th February 1873.

From—LIEUTENANT-COLONEL R. G. ROGERS, Commanding 20th Punjab Native Infantry,
To—The Officer in charge Adjutant-General's Office, Simla.

In obedience to your "Clothing" No. 362B. of 5th instant, a pattern of the knickerbocker and gaiter (combined), as recommended in my letter No. 6 of 31st January 1872, has this day been forwarded to your address by pattern post. With reference thereto, I have the honor to report, for the information of the Right Honorable the Commander-in-Chief, that they cost on an average from Rs. 1-9 to 1-12, and that they last about 18 months each, that is, a man starting with two pairs requires usually to buy one new pair at the end of that time, the second pair of those he started with being then brought into every-day wear, and the new pair reserved as these were for use on extraordinary occasions, or when his other pair was being washed.

The strap at the ankle is to enable the gaiter to be turned up and fastened above the knee in crossing shallow streams, or when resting at night on service. It interferes in no way with a man's efficiency, and with the string to draw in or loosen the waist of the knickerbocker adds immensely to a man's comfort, especially when as at Umbeyla the regiment had no change of clothes for two months, and had during the whole of that time to be ready to repel any sudden attack at a few moments' notice. The regiment has worn no other trouser for many years during either hot or cold weather. The width of the knickerbockers enables the men to wear what they like under them unnoticed, and the compensation issued to them every second year in lieu of woollen trousers saves them from pecuniary loss.

Report C5.

No. 56, dated Peshawar, 4th April 1877.

From—LIEUTENANT-COLONEL R. G. ROGERS, Commanding 20th Punjab Native Infantry,
To—The Adjutant-General in India.

In reply to your memorandum No. 592B., "Clothing, Native Army," dated 17th ultimo, I have the honor to report, for the information of His Excellency the Commander-in-Chief, that the only order in force in the regiment under my command as regards private clothing is that each man is to possess at least two complete suits, to aid in obtaining which advances have hitherto when necessary been given to recruits on enlistment.

2. This clothing is always of a light description, warm clothing being purchased by very few, and its place supplied in cold weather by a blanket or sheet worn over the shoulder.

3. To lay down any rule for a corps composed of so many classes and tribes beyond that above noted would, in my opinion, be highly inadvisable. Each individual must as heretofore be guided by his own tastes and nationality.

4. In conclusion, the only suggestion I have to offer is that Government be solicited to issue, free of cost, to each man of all regiments serving above Lahore, a good warm woollen jersey to be worn with Native clothes when off duty. This the men cannot afford to buy, and its issue would save the lives of many men who now die yearly from bronchitis, pneumonia, &c., caught in most cases from the habit all sepoy has of throwing off their uniform immediately they come off duty and exposing themselves in light linen jackets when probably heated by previous exertion.

5. A good stout blanket of English make, such as issued to the regiment when proceeding on service to China, 1860, would also be regarded as an incalculable boon. Those then received were treasured for years and only discarded when literally in rags.

Report C6.

No. 19, dated Peshawar, 26th February 1878.

From—LIEUTENANT-COLONEL R. G. ROGERS, Commanding 20th Punjab Native Infantry,
To—The Adjutant-General in India.

As required by your circular memorandum No. ¹⁶²¹_{Camp}, dated 15th instant, I have the honor to report, for the information of His Excellency the Commander-in-Chief, that the brown leather accoutrements used by the regiment under my command since it was raised have been found most serviceable, and that I believe them to be far better fitted for military purposes than those made of buff leather, which in heavy rain have a tendency to become spongy, and which when clean are so conspicuous, that the pipeclay used in cleaning them is almost invariably washed off by regiments proceeding on service.

As to whether the brown leather would prove as lasting as buff, I can see no reason why, if left of equal thickness, it should not be found so, especially as when cleaned with wax as customary; it is much less liable to injury from rain. Its strength is undoubted.

Report OT.

No. 24, dated Peshawar, 6th March 1878.

From—LIEUTENANT-COLONEL R. G. ROGERS, Commanding 20th Punjab Native Infantry,
To—The Deputy Assistant Adjutant-General, Peshawar.

With reference to Adjutant General's letter, "Equipment," No. 518D., dated _____, I have the honor to report, for the information of the Brigadier General Commanding the District, that there is no "Regulation" water bottles for Native troops, and that that usually carried by the British soldiers is, in my opinion, utterly unsuited for the requirements of Indian service for either English or Native soldiers, as being far too small and fragile, and moreover from its shape more awkward and uncomfortable to carry.

Lieut.-Col. F. B. Norman, Commanding 24th Punjab N. I.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Yes, now that khaki instead of white is to be the summer uniform.

I think the present dress of tunic, knickerbocker trousers, puttees and Punjabi shoes, as worn by most regiments, meets all requirements; but I think sufficient attention is not paid in Upper India, where the cold is severe, to the necessity for having warm underclothing for the men.

Their Native clothes, which are usually made of cotton, are not a sufficient protection against the extreme cold which is met with during the winter months at many stations in the Northern Punjab, more especially where, at stations like Peshawar and Kohat, the men have much night duty, and are frequently exposed to very inclement weather. I am sure they suffer from want of proper warm underclothing.

Again, I think the great-coats made of common country blanket, which many regiments still keep up, are quite insufficient for a climate such as I have described. Every sepoy in the Punjab should be supplied by Government with a good serviceable great-coat made of stout English cloth; and at all stations above Jhelum the following articles should form part of the kit to be kept up by the soldier himself:—

- 1 warm puttoo vest.
- 1 pair warm puttoo drawers.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Yes, quite sufficiently so. I think the serge pyjama's far better adapted for him than the tight trousers still worn in some regiments, and a great improvement would be *pockets* in all pyjama-pattern trousers for the comfort and convenience of the soldier. A loose fatigue suit of khaki-colored drill, which could be worn over his cloth uniform or by itself, would be a very useful and appreciated addition to the sepoy's kit, given once in three or four years. Its present cost is Rs. 3-12 or Rs. 4 per suit.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Yes, it meets all requirements in time of peace; and in time of war requires merely the free issue of warm socks, jerseys, &c., and waterproof sheets, as were supplied on last campaign.

Major R. S. Robertson, 4th Native Infantry, Assistant Adjutant General, Allahabad Division.

I think khaki introduced by a recent general order admirably suited to the Native soldier, and the puttee a good substitute for the gaiter; but I would recommend a loose blouse instead of the present tight-fitting coat.

Major R. A. Wauchope, 14th Sikhs.

The skirts of the coat might be longer; otherwise I think it good.

Major A. C. W. Crookshank, 32nd Pioneers.

No; I think the so-called Zouave tunic is not an appropriate or suitable dress. To begin with, it is impossible to fit it with the ordinary measurements owing to the number of small pieces of which it is made, and which make it difficult to cut, and impossible to alter except by a professional; it is too short, and it wants a collar. The material is needlessly thick, and too hard for warmth, and the color is sombre. The facing stripe down the breast, like the chest of a bear, is a perfect bull's-eye.

I prefer the serge now introduced into the Madras army, and would suggest a loose scarlet serge coat made like a Norfolk coat gathered in sufficiently at the waist, with skirts 8" for a man 5'10" and a collar 4" at the back coming to a point in front. It would be warm enough for spring and autumn in the Punjab, and would admit of a "meerzai" or padded coat being worn underneath in winter; the collar and pointed cuffs should be of facing cloth, and the numerous buttons be reduced to 5. This would be cheaper than the present coat, and the saving might be added to the serge knickerbockers, and they be made more full. The serge coat would also be similar to the British infantry serge coat, the war dress of the future in India.

A similar coat should be given to Native officers, and they be allowed to purchase a cloth tunic trimmed more gorgeously than the present one and more like the British officer's tunic: this with full-dress belts to be only used on full-dress occasions. I see no need myself for Government giving Native officers any free issue of clothing; they are well enough paid to purchase it.

So much for the Government clothing; but there are other points which need attention sadly, viz.—

I. *Boots*.—The Native army is not sufficiently well shod, and the provision of boots is the greatest difficulty a commanding officer has. In sheer despair my regiment has taken to Native

shoes as the best and most serviceable article obtainable, but though good to march in they have their faults; they are open and have no hold on the feet; a few yards of clayey soil and every shoe is aground. The ammunition boot is liked, but its price is prohibitory, and the Native-made English-shaped boot is brown paper. I have long taken an interest in this matter, and the only solution of the problem I can come to is that Government should start a factory and make the boots, recovering the price from the Native army; the boots not being made on English lasts made to suit English feet, but on lasts made from actual measurements of Native feet. Consult professional tailors and boot-makers, and they will tell you that the Native foot differs as much from the English foot as the Native figure differs, height to height, from the European. We try to drive Native feet and bodies into European boots and clothes, or the old story of the square body in the round hole.

II. Great-coats.—A good and cheap material should be specially procured from England, or the manufacture of puttoo encouraged and improved. Puttoo lined with flannel or good jute would make an excellent great-coat, and the color is first-rate. The coat should be of the Ulster shape, fitting the figure, and have detached cape; in itself a most useful article.

The great-coats should be made and issued to the Native army on payment. At present the provision of a great-coat is a great difficulty, and all sorts of makeshifts in the shape of chogas and blanket-coats are tried.

III. Havresacks should be of uniform pattern, and issued on payment by Government.

IV. Water-tins should be of uniform pattern, copper tinned or block-tin, made to hold a quart of water; issued on payment.

V. Khaki jumpers should be ordered generally and take the form of a blouse, or, what is better, the summer coat should be loose enough to wear over the winter tunic.

VI. Summer clothing of khaki as recently ordered of uniform pattern. Native soldiers are put to much expence in complying with the fancies of commanding officers. The uniform of an army should possess the condition of uniformity. Government should take up the question of the natural-dyed cotton as grown at Nagpore and by the Central India Horse. It meets a great difficulty of uniformity of dye and the necessity for dyeing.

VII. Pugree.—Every Native soldier should have a khaki pugree as his second or warhead-dress.

VIII. British officers.—The dress of the British officer requires modifying to meet the requirements of war. The present full dress is all he wants for ceremonial occasions; and his undress or ordinary parade dress should be adapted for service. A warm and light khaki suit of serge or drill, with cord breeches, Sam Browne belt, brown gaiters, should be his ordinary parade dress, and this with a full dress and an undress for in-door duties is all he needs. On service he should wear the glengary forage cap.

Captain H. D. Hutchinson, 40th Native Infantry.

All regiments have not the same uniform. Every soldier should have the following, and no more :—

A khaki turban with removable distinguishing topknot.

Loose khaki blouse, two.

Khaki pantaloons, two pairs.

Cashmere putties, one pair.

English ammunition boots, two pairs.

A red tunic and dark-blue serge pantaloons.

A great-coat, havresack, and water-bottle.

The red tunic and serge pants should be worn only on guards, orderly duty, commanding officer parades, &c. At all other times and seasons, the khaki should be worn.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

I consider the red cloth coat issued to the soldier is about as bad as it can be: cloth indifferent, coat skimpy and not protecting throat, stomach, or thighs from cold and exposure. Moreover, it has a broad white facing down the front, rendering the soldier a conspicuous mark, which, in these days of arms of precision, appears a great mistake.

The coat should be like the old tunic, with a low collar and covering the fork and stomach, and with only a piping in front.

Khaki is often suddenly adopted on service. All summer clothing should be made quite loose, so as to be able to put warm clothing on under, if wanted.

During late expedition some regiments suffered from the cold greatly, because their khaki uniform had been made so tight, that nothing could be worn under it.

All Native soldiers should wear Native shoes and not mock-ammunitions. I consider that a water-proof sheet should be substituted for a dhurrie in a soldier's "kit," as being much lighter, more useful, and not expensive.

Major A. Battye, 2nd Goorkhas.

Goorkha regiments should always wear the Kilmarnock cap, and therefore boots or shoes of English pattern as at present. The rest of their uniform is also suitable, but khaki required for service on North-Western Frontier regiments wearing the pugree, which is a suitable head-dress for the plain's men, might with advantage use Native shoes and knickerbockers, like those of the 20th Punjab Infantry, which have not the large detached gaiters coming over the boots, but short gaiters attached to the knickerbockers, and reaching to the ankle only which it leaves bare. The attached gaiter would probably only answer in khaki, not white uniform.

Major F. F. Rowcroft, 4th Goorkhas.

I think the present uniform very good, but I would abolish all kinds of gaiters, substituting *cloth puttees* instead. I consider the *Native shoes most unserviceable*. They come off in heavy ground, or get filled with sand or stones. I consider the English service *pattern ammunition boot* the very best, *not to tie up with laces*, but to be fastened with *strap and buckle*. Native soldiers greatly appreciate them. I can at any rate speak from experience as regards the men of my regiment, the 4th Goorkhas. The men eagerly buy English ammunition boots whenever they have the chance, giving, too, comparatively high prices for them.

Colonel R. Blair, 3rd Native Infantry.

Yes; but I think a loose coat, the same as worn by European soldiers, but making of the present description of cloth and slightly drawn in at the waist, so as to allow the belt to fit, would be better.

Colonel H. Boistagon, Commandant 4th Sikhs.

Yes; present uniform satisfactory. Great-coats with *capotes* should be supplied by Government, and not, as at present, be a part of "half mounting" sent from the men; socks, gloves, and poshteens, &c., to be included in the latter; as most of our future campaigns will be in cold climates.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

The only thing we get from the Government is a coat made of cloth, as we draw compensation for trousers. The coats are no use to the men at all. They are worn on parade sometimes, and on night duties, but they are never worn on service, on the march, at target practice, or anywhere where the men require to use their strength. So far as this regiment is concerned, the money spent by Government on cloth coats is absolutely wasted. I wish Government would give us the means of getting cheap and really good great coats like the English soldiers wear instead of the present cloth coats.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Yes, with exception of tunic, which is too tight; in place of it I would advocate the introduction of a Norfolk jacket with cuffs and collar of regimental facings; the jacket to be sufficiently loose to admit of jersey or wadded jacket being worn underneath in winter. In cold climates a free issue of poshteens should be made triennially.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

The cloth tunic is warm and serviceable. The cloth trousers are pretty unanimously condemned by officers and disliked by men on this frontier, even where the cold is much more severe than in other parts of India; they rub the men, and are too warm to march in. Drill pyjamas or trousers with either gaiters or puttees are much more useful, and when the body is kept warm, Natives do not seem to feel cold about the legs.

A good pattern shoe or boot has still to be hit upon for the Native army.

Major R. B. P. Campbell, (Queen's Own) Corps of Guides.

I think if Government issued an order laying down that cloth uniform should only be worn on special occasions, and ordinary duties performed in half-mounting, uniform, there would be no necessity for issuing a cloth coat one year and a pair of trousers another. By being only worn on special occasions, the clothes would last longer; and what Government saved by this they might expend in providing blue sailor's guernsey frocks.

The men could wear these under their half-mounting, and, with the help of great-coats and poshteens, would be enabled to ward off pneumonia, even in Afghanistan.

Major A. G. Ross, Commanding 1st Sikh Infantry.

Depends on what the uniform is. Various corps have varying uniforms. I think white spots, short skirted jackets, under waistcoats, and *quasi-English* boots, quite unsuitable. Hot and cold weather all uniform, but especially that of foot-men, should be loose. In hot weather air gets in. In cold, clothes can be worn underneath. I would clear our minds of the association of smartness with tightness. Soldierly bearing, well kept and cared for arms, neatness in wearing clothes, should be the tests of smartness of appearance. All pipeclaying and such artificial aids should be abolished.

Foot covering for Natives is a difficulty. Even good English boots do not work without stockings. Country boots give sore feet. Native shoes are best for work, but they do not stand wet, and they get easily knocked to bits, although a moccasin can keep them going for months, even when work is heavy and rough.

I do not consider our present uniform meets all requirements: our foot covering is very faulty. The coat-collar is equally faulty.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

The present uniform is not adapted to the Native soldier. I would suggest that a dress similar to that worn by the French *Zouaves* regiments be adopted for the Native army, as being calculated to give the Native soldier more ease and freedom in his movements than is possible for him in his present uniform.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

This is a matter of opinion.

Taking all things into consideration, I would not change. Some recommend Zouave costume; it would be easy and comfortable; but it would make the men careless, slouch, and unsteady. Some suggest knickerbockers. These would be untidy; better turn up the trousers when required. Men in present uniform have done good service; they like it, but do not understand changes. In the present uniform the men believe they are Government soldiers.

Colonel L. W. Buck, Commandant
20th Madras Native Infantry.

No; the Native boot worn is badly made and useless in wet weather. I would substitute a well-made laced boot, if possible, of English make, to be supplied by Government, but paid for by the men; it would last much longer and prevent sore feet. The knickerbocker pattern should be worn instead of long trousers; the lower limbs would be much freer.

The boat-cloak in use is inconvenient for marching in, and does not keep out the wet. I would substitute a cape reaching to the hip joint of water-proof material, and a blanket or Native *cumbly*, the latter for use on guard or on field service instead of the carpet.

The head-dress should be the Native turban.

Colonel W. A. Gib, Commandant
25th Madras Native Infantry.

It can certainly be improved upon. The men should have English ammunition boots and woollen socks for the field. Shoe-bites would then be reduced to minimum, as I know, by experience in my own regiment, no country-tanned leather will stand wet. In wet weather boots made of it lose all shape and fall to pieces. They are also of bad shape and hurt the feet.

But sepoys cannot afford to buy English boots. In the Madras army turbans might perhaps with advantage be introduced instead of the small caps now worn in it, but, in that case, the colors of the coats should be removed, and the cut of the coat itself be in some way *orientalized*. It could be easily done, I think.

If knickerbockers be introduced, the gaiters worn should only just cover the tops of the boot, and the best pattern of boot, I think, is one called "Faggs' moccasin," which fastens with two straps and buckles. This boot is easily put on in the dark, a great consideration for a soldier, whereas in the lacing boots the laces are constantly breaking, and it is besides difficult to lace them in the dark.

Boots to the infantry soldier are of the very first importance. If the Native army had them, I don't think there is much fault to be found with the rest of its dress. Of course, if sent to a cold climate, the Native army must be provided with warm inner clothing.

Lieutenant-Colonel F. H. Tyrrell,
37th Madras Infantry.

The Madras Infantry sepoy is at present dressed in the same uniform as the British soldier, only wearing a forage cap always instead of a helmet: I would have the dress altered as follows:—

The tunic to be looser and to have no standing collar. The trousers to be looser, and to be made with a waist-band, obviating the use of braces which the men now wear, and to be narrowed above the ankle so as to be easily gathered on occasion with a cloth or canvas gaiter. The white-cotton tunic worn by Madras troops in the hot weather needs no alteration.

Lieutenant-Colonel P. A. Carnegie,
89th Madras Native Infantry.

I think the uniform for a Madras sepoy of cloth tunic and sergo trousers not only most unsightly, but also quite unsuited to a tropical climate such as we have nearly all the year round.

Major E. Fannee, 14th Madras
Native Infantry.

No; the Madras Native soldier is dressed up in badly fitting imitation of the British soldier. A Zouave jacket, loose trousers to knee, gaiters coming over foot, and shoes, and a turban would be more suited to him: his boots are especially bad, rubbishy leather that cannot stand the dew on the parade ground even, badly made and fitting. If he is to continue to wear them, Government should supply and charge for them.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

The dress of the Native army of this presidency is in the highest degree unsuitable either for peace or war. It is neither ornamental nor comfortable, and being tight-fitting is singularly unbecoming to the Native figure. The Native infantry soldiers of this army appear to much greater advantage when dressed in Native clothes than when attired, as they now are, in a uniform made of the same pattern (but of inferior materials) as that worn by the British soldier. The Kilmarnock cap is neither a protection to the head nor a suitable or becoming head-dress to a Native. A dress of a somewhat more appropriate nature has been devised and approved by the Government of Bombay, but the final approval of the Government of India has not yet been secured. This dress, though an improvement on that now in use, is not altogether satisfactory, as the desire not to exceed the present cost necessitated the use of serge instead of cloth for the tunic as well as the trousers, and it is doubtful whether serge will wear as long as cloth and be as serviceable to the men. Many of the regiments have adopted the Native head-dress (*puggrie*), and it is hoped that shortly the Kilmarnock cap will be entirely dispensed with. The dress of the Native cavalry is now in the course of being remodelled, but this reform can only be carried out very gradually, so that unnecessary expense may not be imposed on the sowars.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

Certainly not. I consider the dress of the Native soldier requires much alteration and open to vast improvement, and it is the one great cry of commanding officers of the Bombay army that they cannot dress their men as some of the Bengal regiments are now dressed.

I think a nice loose dress might easily be adopted without any extra expense to the State, but certainly to the efficiency and appearance of the army.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

The uniform of the Native soldier of the Bombay army is susceptible of much improvement. The trouser is most unsuitable; loose knickerbockers with the gaiters or leggings should take its place. The great-coat requires altering to render it as serviceable as it should be.

Colonel W. Bannerman, 4th Bombay Rifles.

I consider the Zouave dress the best suited for the Native soldier.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

The uniform issued to the 9th and 22nd Bombay Native Infantry regiments on proceeding to Malta last year, consisting of a serge tunic, loose trousers, and canvas gaiters appears to meet all requirements: it is comfortable, serviceable and looks well; but I would suggest that the tunic should be made rather longer and looser than the present pattern.

Colonel H. H. James, 10th Bombay (Light) Infantry.

No, it should be far looser and more suitable to Natives. I would do away with the imitation of British uniform.

Colonel R. Mallaby, Commandant, 13th Bombay Native Infantry.

I can conceive no dress more utterly unsuitable than that of the Native regiments of the Bombay army. Suitability in all and great changes of climate, a dress easy put on and put off, freedom for chest and limbs, durability with good style are the requirements, and these are utterly ignored in this army. The difficulty is that some extra expense might have to be incurred; but I am sure that if the clothing agency is abolished, and the materials are of a Native manufacture, the extra expense would be covered, and the efficiency and the number of years through which that efficiency would stand good would be vastly increased. I have enlarged on this matter in my reply to question 26.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

The Bombay army is being gradually improved in dress. I would advocate knickerbockers, gaiters and English ammunition boots. The tunic answers its purpose, being suitable for all weathers and is liked by the men.

Colonel A. Carnegie, 21st Bombay Native Infantry.

No, not the uniform in general use in the Bombay army, but I consider the uniform suggested by me for the marine battalion, and approved by the late Commander-in-Chief, Sir C. Staveland, a most serviceable dress.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

The present uniform of the Bombay army is unsuited for the requirements of the Native soldier. I would venture to recommend English ammunition boots, loose and long "peg-top" trousers with a short gaiter, loose coat without a collar, made somewhat like a "Highlander's" or "Norfolk" jacket, and a large high puggerie, or longie; also a "khaki-rung" suit for marching, escort duty and for drill and guards in the hot weather.

Lieutenant-Colonel O. V. Tanner, Commanding 29th Bombay Native Infantry.

The present uniform of Zouave trousers, puggeries and putties or gaiters I consider very good. A working dress in addition would be desirable.

35. Is the present mode of payment to Madras soldiers, depending as it does on the price of rice, a judicious arrangement?

Colonel H. S. Obbard, Commandant, 41st Bengal Native Infantry.

Not theoretically, but practically, it may answer very well. I dare say it was advantageous to Government when first introduced. If any change is contemplated that is disadvantageous to the whole army, it should receive very serious consideration.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

I should certainly say not, as a principle. If he is paid in rice, it cannot matter, for, whatever its price, he would get the same amount of rice; but if he is paid in money at the market rate of the rice, the principle cannot be a sound one. In fact, I suppose it comes to the same thing as "compensation for dearthness of provisions."

Colonel E. Dandridge, Commanding 40th Native Infantry.

If it be true, as I have read, that the cost of a Madras regiment is far in excess of that of a Bengal one, I should say the present system was certainly not judicious. Men coming into the service hereafter might be brought on the Bengal scale.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

I am not aware as to the payment of the Madras Native army whether that is—the sepoy gets a certain fixed pay, as in the Bengal army, and compensation for dearth of provisions, when the staple commodity of which his food is composed rises beyond a certain rate; If so, there seems to be no difference between the two. But if it is dependent altogether on the price of rice, which forms, I believe, the staple food of the Madrassee, I think the arrangement an injudicious one, as there is no knowing what his pay might amount to in seasons of dearth, the rice crop being so dependent on a due supply of rain.

Lieutenant-Colonel R. G. Rogers, 20th Punjab Native Infantry.

I know nothing of the Madras system. The Bengal practice of granting compensation (in addition to regulated pay, &c.) works on the whole well.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

I should say not. In my opinion the soldier should have a fixed rate of pay, and take his chance like any other member of the population of a country in regard to a change in the price of food.

Major A. C. W. Crookshank, 32nd Pioneers.

I am not personally acquainted with this matter; but any arrangement under which the rate of a soldier's pay depends upon the local price current is, I consider, highly injudicious and unsatisfactory.

Colonel H. Boisragon, Commandant 4th Sikhs.

I know nothing about this Madras system of payment, dependent on the fluctuating price of rice apparently. A soldier's pay should be permanently fixed. But this I do advocate, abolishing "compensation for dearth of provisions" *in toto* in peace times, and in garrisons the men should take their chance with the rest of the community (European and Native); during war such unusual charges are met by the Government generally granted by Government. If this system is to be maintained, I should certainly apply it only to buglers and sepoys and certain Government camp followers, not to the non-commissioned ranks; *certainly not* to the Native officer.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

Not having had any experience, I can scarcely presume to offer an opinion: the custom appears to me to be equally objectionable to that which obtains in the Bengal army of granting compensation for dearth of provisions.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

As rice is the staple food of the Madras soldiers, compensation for its dearth is a most judicious arrangement.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

I do not think that any better arrangements could be made, unless the pay of the Native soldier were increased.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

I cannot suggest a better mode. I have referred to double rice-money in answer to 26.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

The pay of soldiers must depend on the price of grain on which they live. The Madras sepoy lives principally on rice; even when stationed where flour is cheaper, he will continue to eat rice for one meal, wheat diet not agreeing with him. I consider the higher rate of compensation unnecessary, as what is sufficient at Trichinopoly and Bangalore should suffice in the Central Provinces, where living is cheaper than in the south of India.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

I think it is, rice being the staple food of the Madras soldier, and the rice-money, as it is called, does not compensate in full for the dearth of rice.

In my answer to question 15 I have stated how, I think, under certain circumstances the rice-money should be limited to Rs. 3 a month. I believe, but am not certain, that in some stations in the Nagpore and Central Provinces it is much more.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Infantry.

If compensation for dearth of provisions is allowed at all, it must be allowed for rice in the Madras presidency, as it is the staple food-grain here, and the people live on nothing else; but I think it is a bad arrangement to have a fluctuating scale of pay, as in the case of the Madras sepoy's pay with the addition of compensation for dearth of rice. I would strike an average and substitute a fixed increased rate of pay.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

It is not a judicious arrangement for the Government, but for Madras sepoys it seems to be the fairest that can be adopted. When the men cross the Nerbudda river they receive *double* batta, and this makes the sum paid to Madras regiments serving in Bengal appear very large, but I find the average monthly payments for compensation to my wing from August 1878 to July 1879 averages for the twelve months Rs. 2-0-7 per month, and for four of those months in 1878 rice was selling at 5 measures per rupee, as it was the famine year! The average for this year (seven months) is only Rs. 1-15-4 per man: see return attached, marked B.

B

LEFT WING 39TH REGIMENT, NATIVE INFANTRY.
Rice-money drawn from August 1878 to July 1879.

						Rs. A. P.	Rs. A. P.
Rice money for August 1878 at 5 measures	...	...	...	...	...	3 3 8	...
" " September " " "	...	...	...	...	...	3 2 0	...
" " October " " "	...	...	...	...	...	3 3 8	...
" " November " " "	...	...	...	...	...	3 2 0	...
" " December " 6 " "	...	...	...	...	...	2 8 4	...
" " January 1879 at 7 " "	...	...	...	...	...	2 0 2	1* 0 0
" " February " 6 " "	...	...	...	...	...	2 4 5	2* 0 0
						Rs. A. P.	
" " March 1879	...	Coconada 8	...	1 10 1	}	1 13 2	3* 0 0
		Rajahmundry 7	...	2 0 2			
		Rajahmundry 8	...	1 9 3			
" " April "	...	Average	...	1 15 2	}	1 12 3	4* 0 0
		Chowdaram 7	...	2 0 2			
		Rajahmundry 7	...	1 10 1			
" " May "	...	Average	...	1 15 2	}	1 13 2	5* 0 0
		Chowdaram 8	...	2 0 2			
		at 7 measures	...	2 0 2			
" " June "	...		...				6* 0 0
" " July "	...		...				28 14 2†

				Rs. A. P.
* 7 months of 1879.—Total	...	...	...	13 10 6
Average	...	...	...	1 15 3
				+12) 28 14 2
Average	...	...	...	2 6 7 per month.

Major E. Faunce, 14th Madras Native Infantry.

Yes; I cannot see that it differs materially from the mode in force in Bengal and Bombay (see pp. 46-49, Pay Code, volume II). All receive a certain monthly pay, and, in specified cases, extra allowances, depending in Madras on the price of one article only, *viz.*, rice; in Bengal on the price of four articles, wheat, dhall, ghee, salt; for Bombay the same with the addition of firewood.

Brigadier-General A. B. Little, Commandant 25th Bombay Native (Light) Infantry.

I have only served with the Bombay army; but I should give it as my opinion that the *system of payment to the Madras soldier, depending, as I am led to believe it was, on the price of rice, to be anything but a judicious arrangement.*

Colonel R. Mallaby, Commandant 18th Bombay Native Infantry.

I do not myself know the principle on which this payment is made. If it is on the principle on which the "compensation for dearness of provisions" is granted with us in Bombay presidency, I see no objection to it; but I should prefer that some average be taken, say of the last five years, and the result be permanently added to the pay.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

It is the fairest, as it equalizes the cost of living in all stations. The only remedy would be to increase the soldier's pay in lieu thereof *vide* answer 39.

Colonel J. Fairbrother, Commanding 22nd Bombay N. I.

I am in favor of having it a fixed sum.

36. It is very desirable to reduce the number of followers of all classes in regiments both in peace time and in active service: can you suggest reductions of the present establishment?

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

I don't see how the present establishment of a regiment of Punjab infantry can be reduced either in time of peace or war.

Colonel H. S. Obbuhl, Commandant 41st Bengal N. I.

The followers attached to a Native battalion are of three classes—

I.—Mustered establishments.

II.—Private servants for public purposes.

III.—The men's families.

The first to consist of—

1 tindal, 8 lascars, 8 bhistees, 8 sweepers.

1 chowdree, 1 mootsuddce, 2 weighmen, 2 beldars.

For hospital, 1 shop cooly, 2 bhisteas, 1 goorga, 2 cooks, 2 sweepers, with 1 mate and 3 bearers, or a dooly.

Educational, 1 schoolmaster, 1 munshi, 1 pundit.

Of these, the tindal and 8 lascars might be dispensed with. A non-commissioned officer being detailed to assist the quartermaster, in lieu of the tindal, on an allowance of 4 rupees a month, and a sepoy per company being detailed for work in store-room and magazine on 2 rupees a month.

The meotsuddee, weighman and bildars might be dispensed with.

The hospital establishment is not susceptible of education.

The schoolmaster, moonshee and pundit may be got rid of as non-combatants-enlisted, and trained soldiers taking the duties. English school-master at 10 rupees a month, and one vernacular teacher at 5. These two, with the pupil teachers paid from the school funds, would suffice.

Class II consists of—

8 bunneahs, 8 washermen, 8 barbers, 8 goorgas, 1 sweetmeat seller, 1 tobaccoconist, 1 dyer, 2 meochees, 2 writers.

Bunneahs might be reduced by 4 if necessary, but I hardly think it would be any gain. Half the washermen, barbers and goorgas might be dispensed with on service. So might the dyer, 1 moochi, and 1 writer.

Class III.—The men's families. There are about 40 or 50 generally with the regiment. They come and go, but very few remain permanently with it, except those of the Christian drummers. It tends very much to the happiness and contentment of the men, having their families come for a month or two, and I do not think it would be well to interfere with them.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

The followers of Native infantry regiments is not at all excessive and do not admit of reduction.

Colonel E. Dandridge, Commanding 40th Native Infantry.

The number of *paid* followers is but small. The bazar establishment might be dispensed with (the paid portion of it).

Colonel G. W. Fraser, Commandant 39th Native Infantry.

The following reductions might be made with advantage—

(1) The moulvie and pundit, their places being supplied by sepoy assistant schoolmasters, whose extra pay would be paid from the school funds, and who would join the ranks in time of war.

(2) The tindal, whose place should be filled by a quarter-master havildar.

(3) Four lascars: these men are chiefly assistants to the tindal, in looking after the regimental stores in magazine, ammunition, camp equipage, surplus clothing, &c.; they are also employed as orderlies to the quarter-master and medical officer, which duties should be performed by sepoys, the remaining four lascars being employed solely in the magazine, under the orders of the quarter-master and quarter-master havildar.

(4) The mutsuddee and two weighmen, whose duties are supposed to be to look after the bazar, see that the regular supply of provisions is kept up by the regimental bunneahs, and that it is of good quality, that proper weights and measures are kept by the bunneahs, &c.; but as these duties are already performed in reality by a standing regimental bazar committee, who are responsible to the quarter-master, the retaining of the above three individuals appears to be superfluous.

(5) Two bildars, whose work should always be done when required by fatigue parties from the regiment.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

The only possible reductions I can suggest are connected with the regimental bazar.

The chowdry, mutsuddy, and two weighmen might be done away with altogether.

The bazars themselves should be local, and should not accompany regiments on the march. Where there are no burdashkhanas, civil and political officers might make the necessary arrangements. While on service the commissariat would, of course, feed the troops.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

In the quarter-master's establishment I consider that the two bildars and two weighmen could be very well dispensed with. The regimental kalassies could do all the duties of the bildars without interfering with their own work, whilst the chowdry could very well otherwise arrange for those of the weighmen. As a point of fact, these latter do little else but attend upon the quarter-master as orderlies. In the hospital establishment also considerable reductions could be made, especially on the introduction of the general hospital system referred to in question 38.

Lieutenant-Colonel L. H. Williams, Commanding 14th Sikhs.

I do not consider that the number of regimental followers could possibly be reduced; they consist at present of 1 tindal and 8 kalassies, 16 bheesties, 16 cooks, 8 sweepers, and 2 bildars.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

No, not in peace time or on active service beyond what they would be reduced by the regimental authorities as a matter of course.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

The number of followers seems to me to have been reduced as far as practicable, with regard to efficiency of the Native army.

Far from reducing the number, I consider that an extra lascar (or "peepawalla" as still retained by Goorkha regiments) should be attached to each company of the service battalion to carry and issue reserve ammunition in action, for mules cannot accompany the fighting line, and every rifle being required, soldiers cannot be spared to run backwards and forwards as ammunition runs short.

Lieutenant-Colonel F. B. Norman,
Commanding 24th Punjab
Native Infantry.

The followers in a Punjab regiment are as follows per company :—

Lascars	...	...	1
Bhistees	...	...	2
Cooks	...	...	2
Sweeper	...	...	1

I do not consider that the followers of the three latter classes could be reduced. If lascars were reduced, the work would have to be performed by sepoys; and as it is on service, too many fighting-men are employed on duties which could be performed by less highly-paid men.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native
Infantry.

I think the bazar establishment might be abolished, if it was rendered imperative on all men in Native regiments to make use of the station bazars in peace time, and if Government issued rations through the commissariat department in active service.

On occasions of the march of a regiment from one station to another in course of relief, a certain number of bunneahs could easily be sent with it from the sudder bazar of the station.

I do not think any other part of the Native establishments of a regiment could be dispensed with, except at the expense of efficiency in the corps itself.

Lieutenant-Colonel G. C. Rowcroft,
36th Native Infantry.

No, not without causing a diminution in the number of fighting men who might be told off as company tent-men, &c. I consider the present *authorized* establishments on as low a scale as compatible with efficiency, after allowing for casualties and sickness when on active service.

I do not think the present regimental establishment one too many either in peace or war time.

Lieutenant-Colonel F. M. Armstrong,
Commanding 45th (Rat-
tray's Sikhs) Native Infantry.

I do not well see how the number of followers could be reduced in time of peace, but perhaps some system might be introduced which would do away with the regimental bunneahs and bazar establishment, making the commissariat supply Native regiments with all that is needful. I consider regimental bunneahs, as a rule, quite useless, and a cause of constant trouble and litigation, and when the regiment is ordered on service they will very often, if not forcibly detained, remain behind.

Major R. A. Wauchope, 14th
Sikhs.

I do not think they should be reduced. The tindal and eight kalassies per battalion might be given up altogether, and instead of them I would enlist men of the same class as the regiment for this duty, drilling and training them as soldiers: they would form a portion of the peace establishment, and in war time they could be used as baggage guard, or serve in the ranks as required.

Major A. C. W. Crookshank,
32nd Pioneers.

The followers of a Native regiment are only those really wanted, and most of them are paid for by the men; the only way therefore in which they can be got rid of is by getting the work done by the men, and thus putting the Native regiment in India on the same footing as a British regiment at home, due regard being paid to caste prejudice and to traditional manners and customs.

Hitherto it would be impossible to replace the lower paid follower by the higher paid sepoy; but if the strength is increased, then there would be a margin for non-effective services. I think then that in peace time the tindal might be replaced by a quartermaster havildar (one of the havildars now on the strength receiving a staff pay of Rs. 7 to Rs. 10), and the lascars might be replaced by old soldiers acting as store orderlies. The dhobies, cooks, bheesties, and sweepers must remain. The two moochees might be dispensed with, and in regiments where that class is not enlisted, permission should be given to enlist two moochees, and they be given the pay now given to the moochees as a staff allowance. This principle has been adopted for the armourers. The bildars might be discontinued, and the work done by fatigue parties. The chowdry, weighman, and bunneahs who form the victualling establishment of a regiment must remain.

In war the following would be taken with the regiment :—

Regimental followers.

16 cooks.
16 bheesties.
8 sweepers.

Victualling establishment.

1 chowdry.
1 weighman.
8 bunneahs.

In hot weather a proportion of dhobies would be allowed, and to the above the spiritual adviser might be added.

I think the establishment might be revised. *Hospital.*

In peace time all that appear necessary are—
Apprentices.
Dresser.
Cooks.
Bheesties.
Sweepers.

The goorah, who is generally the servant of the hospital assistants, should be reduced. The doolie-bearers are never used for the duties they are paid for; they might be reduced, and, in their place a couple of sick bearers allowed to assist the hospital assistant in looking after the sick and also in attending on the sick.

For the transport of the sick in quarters a few stretchers should be distributed in the lines, and sick men be carried to the hospital by their comrades on them instead of as now in charpoys. This would familiarize men to the use of stretchers. On the march a light ambulance would be far more useful than the two-doolies and far less expensive.

In time of war I would only take with the hospital—

- 2 hospital assistants,
- 1 apprentice,
- 2 hospital attendants,

and perhaps one cook; bheesties, sweepers, and extra cooks being supplied from the individuals of that class attached to the regiment.

By this means some small economy would be gained in time of peace, and in war the followers would be reduced to a minimum.

I would also advocate, if the strength of regiments is increased, enlistment of one servant per officer. In some regiments there are classes who can provide officers with good soldier servants in war time. In others I would allow the commanding officer to enlist a few carefully selected men of suitable castes, as officers' servants, so that in war time they would be soldiers instead of useless followers. The officers' followers could then be reduced to one servant per horse, and one general table servant to three officers.

Colonel R. Sale Hill, Commandant
1st Goorkhas (Light Infantry).

Regiments are so much broken up into detachments, that I don't see how the present establishment could be reduced.

Major A. Battye, 2nd Goorkhas.

I cannot recommend reduction of the present establishment. On the contrary, the number of bheesties (one per company) is not always sufficient on active service. Lascars or Kulassies could, however, be made more useful on service if they were armed and drilled.

Major F. F. Rowcroft, 4th
Goorkhas.

I do not think the followers of a Native regiment in peace time are excessive in number, consisting as they do of the company, bunnahs, chowdry, moonshee, 2 dyers, 2 shoemakers, barbers, 2 armourers, butcher and his assistant. Going on active service, most of them could be easily left behind. In the late campaign in Afghanistan my regiment had only 2 bunnahs, 1 chowdry, 1 dyer, 1 shoemaker, 1 butcher and his assistant, 2 barbers, and the armourer, and the regimental "kalassies," whom I forgot to include above.

Colonel R. Blair, 3rd Native
Infantry.

I would suggest that the present system of regimental bunnahs be done away with, and the commissariat to supply all rations: this would do away with the necessity of compensation for dearth of provisions; also the mutsuddee of the regiment.

Colonel H. Boisragon, Com-
mandant 4th Sikhs.

No reduction of *Government* "followers" possible in Native corps compatible with efficiency.

Lieutenant-Colonel J. J.
Boswell, Commanding 2nd Sikh
Infantry.

I can offer no possible suggestion regarding reduction in the number of camp followers.

Lieutenant-Colonel B. R.
Chambers, Commanding 6th
Punjab Infantry.

I think the present peace establishment of camp followers allowed in a Native regiment is as low as it can be made. In time of war the increase is caused by men in charge of baggage animals and dooly-bearers.

Major A. G. Ross, Command-
ing 1st Sikhs.

The two weighmen in bazar might be reduced. I do not think any one else can be reduced in peace. In war there should be a bheestie, besides a pakhal to each company in arid countries, and a bheestie for every 50 followers, and a sweeper for every 150 followers.

Colonel A. Jenkins, Command-
ant 2nd Madras Native In-
fantry.

I cannot offer any suggestions for the reduction of the present establishment of followers.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

This is a point that is very difficult to deal with as regards the men's private followers, for they consider themselves bound to maintain those of their relatives who cannot or will not obtain employment for themselves, and these are undoubtedly a heavy burden on the men, but this is an evil which may diminish in course of time, but it has to be carefully and gradually dealt with.

The strength of the public followers which I have given in answers 1 and 2 are, in my opinion, the lowest required for a battalion on peace and war footings.

Colonel G. Hearn, Commanding
16th Madras Native Infantry.

In a Madras regiment the authorized followers are—

- | | |
|------------|--------------|
| 8 lascars. | 8 pakhalees. |
| 8 barbers. | 8 dhobis. |
| 1 kotwal. | 2 peons. |

The kotwal and peons may be struck out, as also the moonshee, who still exists in some regiments.

Unauthorized followers should not be recognized or allowed.

- Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

The bazar establishment of a Madras regiment is useless; they will not accompany the regiment on change of station. The kotwal and peons might be dispensed with. Regimental lascars are of little use in a station, and sepoys should pitch their own tents.

I do not see how the families can be reduced, and in peace time they travel at their own expense. When a regiment is sent on active service, I think the families should be left in their lines with a few old men as guard, if possible, in charge of a British officer. They should remain there till the service was over, and the regiment should be sent back to the same station, if possible, for at least a year. At present the families are generally sent at Government expense to the station they select, but I think this is an unnecessary expense. Let them stay where they are, and if any insist upon going, let them go at their own expense. This of course could not be done if a relieving corps was sent. In that case the families must be sent elsewhere. This is the only way in which the families are any expense to Government.

The only authorized non-combatant camp followers (except carriage for sick) are eight lascars, who do a good deal of the work of pioneers, puekhalees, dhobis, and barbers, two of each per company, two hospital assistants, one bazar kotwal and two peons, and two hospital totis. The dhobis and barbers might be dispensed with on a campaign. The kotwal and peons might be abolished altogether, but all the rest are necessary, and the number is not great.

In Bengal two cooks per company are allowed, but in a Madras regiment the men could cook for themselves in messes as they do on boardship. Two or three men could be told off for this per company; but, if the food consisted of rice, Government would have to supply them with some large dekechis to cook it in, and if it were flour, they would require some large towahs. This would reduce the fighting line a little, but it would also reduce the number of helpless followers. One servant and one syce per British officer, and one servant to two Native officers, is the minimum allowance.

There is no carriage whatever allowed for sick in cantonment to a Native infantry regiment in the Madras army. I do not see how the above allotment could be reduced.

The Madras cavalry have a number of grass-cutters, but if the country to which a regiment was ordered forage was procurable on payment, the grass-cutters could be discharged and left behind without extra expense, as the horses are the property of Government.

Lieutenant-Colonel F. H. Tyrrell, 37th Native Infantry.

The duties of the 8 store lascars in a Madras infantry regiment might be performed by sepoys, as is the case in the Bombay infantry regiments. No further reductions could be made among the public followers of a Madras regiment who are few enough. But the horde of women and children, and male relatives of the sepoys who follow our regiments, are a serious nuisance, and are often the cause of heavy expense to Government.

Our commandant has lately taken steps towards the abatement of the nuisance by forbidding the enlistment of married recruits, and prohibiting any private from marrying until he has obtained his first increase of pay, *viz.*, after three years' service.

The living of the relatives of the sepoys with them in the lines is prevented as much as possible.

The best way of getting rid of followers with Native troops would be to lodge the troops in barracks. The Madras troops on service in Burmah live in barracks, and there is no reason why Native Indian troops should not be lodged in barracks, except the expense of providing the accommodation.

Major E. Faucon, Commanding 14th Madras Native Infantry.

We have only one bazar chowdry, two peons; there is no necessity whatever for them; they are supposed to keep order in the regimental bazar, an institution fast dying out, and where existing consisting of some 20 or 30 huts; any such duty can be, and ought properly to be, done by the regimental police.

One tindal, 8 lascars; these too have very little to do practically, and all that they do would be better done by fatigue (or Pioneers) men. British regiments have no tindal and lascars; their pioneers do all work done by them, and there is no reason whatever for keeping them on.

The only remaining followers, puekhallies and sweepers, cannot be reduced.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Excluding the hospital establishment there are only 20 authorized Native followers attached to Native infantry regiments in peace time, and 9 of these are tent lascars and the remainder are bhistees. None of these could, I think, be reduced. Regiments proceeding to Afghanistan were permitted to take, in addition to officers' servants and hospital

establishments, 59 followers, and this does not appear an excessive number. The class of followers which swells the numbers to so vast a figure is the doolie-bearers, of whom 300 accompanied each Native regiment. It is not possible, without information of the nature of the country to be operated in, and special circumstances of the case, to say how far this number, which certainly seems excessive, could be reduced.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native (Light) Infantry.

I do not think the number of regimental followers can be reduced either in peace or on active service.

Colonel S. Edwards, Commandant 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

I do not think the establishment of *public* followers for a regiment of Native infantry is susceptible of reduction either in peace time or in active service.

The only private followers which accompany a regiment on service are the servants of officers; these might be reduced on crossing the frontier or on embarkation for foreign services to a soldier servant to each officer and a syce for each horse, one mess servant being allowed for every three or four officers.

In peace time the private followers of a Native regiment of the Bombay army are—

(a) the servants, such as barbers and sweepers, the number of which is of course limited to the requirements of the men;

(b) wives and children: a reduction here could be made only by limiting the number of married men in a corps; this would make the army unpopular;

(c) other relatives: the number of these is very limited in the Bombay army; only widows having sons in the regiment and having themselves no home to go are permitted to reside in the lines.

Colonel W. Bannerman, 4th Bombay Rifles.

I do not consider the authorized followers of all classes with a regiment to be at all in excess, and am unable to suggest reduction of the present establishment.

Colonel G. W. Hanson, Commandant 9th Bombay Native Infantry.

Including officers' servants and syces, the public and private followers taken to Malta last year with the 9th Regiment Native Infantry amounted to 61. This number does not appear excessive. In addition there were 86 doolie-wallas—a larger number than was necessary.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

The only followers in the regiment in peace time are the men's families. These cannot be diminished: doing so would only have the effect of making the service unpopular.

The men serve more contentedly with their families about them, and they are an extra security for good behaviour and allegiance.

On service, followers should be reduced as far as possible; soldiers might be allowed to officers as servants, as was the case in Abyssinia.

The followers necessary for hospital and transport duties cannot well be reduced without risking difficulties in other ways.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

I suppose this has reference to public followers; the only such with us are those of the hospital establishment, the chowdary and two bazar peons. The tent lascars are enlisted men, and would hardly come under the head of followers. I have no suggestions to make tending to reduction.

Colonel Creagh, Commanding 10th Bombay Native Infantry.

There is a bazar establishment in the Bombay army consisting of a ohowdary at Rs. 16 and two peons at Rs. 5 each, with additional allowances, which might easily be dispensed with. The other followers in peace time, excepting the hospital establishment, which is remarked upon in answer No. 38, are right company bhicties and nine tent lascars, all of whom are required. In the field the present establishment of doolie-bearers is 10 per cent. of the strength of the regiment, which is excessive and could be reduced, certainly one-half. The bullock bhicties and sweepers allowed in the field are not above the requirements.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Scarcely applicable to the marine battalion, which may almost be considered a local corps in this respect.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

As regards public followers I cannot, but a great reduction might be made in private followers both in peace time and war. By allowing "soldier servants" to be introduced in time of peace, they would be properly trained for that duty in time of war, and thus do away with a very troublesome class in time of war, and at the same time having effective soldiers in their place when needed; further, I would discourage by every means in my power the relatives of the men, wives and children excepted, from settling near the regiment; they flock round them in large numbers and live upon them.

Lieutenant-Colonel O. V. Tanner, Commanding 29th Bombay Native Infantry.

Followers can be greatly reduced as they were in the late war. When it was over and just before peace was proclaimed, we got 80 kahars in addition to our former proportion, for whom it was difficult to find accommodation, and who were excessive.

37. Can you suggest improvement in the system of entertaining these men, and in what way could they be organized so as to be less defenceless and helpless than they are at present?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

More care should be taken in their selection, particularly in the case of doolie-bearers, all of whom should undergo medical examination before being entertained. All might with advantage be armed with a light Native sword, which nearly every Native knows how to wield. The kahars should be compelled to provide themselves with clothing and covering suitable to the climate and season, except on extreme occasions, when extra articles of warm clothing may be granted by the State. I see no reason why doolie-bearers should not be so far drilled and organized as to be able to move with some degree of regularity on the line of march, instead of in the confused and struggling mass they do at present.

Colonel H. S. Obbard, Com-
mandant 41st Bengal Native In-
fantry.

I do not know that any better system of entertaining these men could be determined. They are essentially non-fighting men, and as they are necessary for the well-being of the troops, defence must be provided for them. A good iron-bound *lathee* is better for them all than a sword.

Colonel E. Dandridge, Com-
manding 40th Native Infantry.

No man who would accompany a regiment on service should be entertained who is not up to the regimental standard in the matter of physique. All should be put through a course of drill and musketry on entertainment and occasionally afterwards.

Colonel G. W. Fraser, Com-
mandant 39th Native Infantry.

Beyond making it a *sine qua non* that all men entertained as store lascars should be physically fit for service and able-bodied, and not over a certain age when entertained (say 25 to 30 years), I can suggest no improvement in the system of entertaining them. On service I would arm these men, as also all other public establishments with a good ordinary Native *tulwar*. By public establishments I mean the above men, also bleesties, sweepers and kahars, all which I consider must be retained.

Lieutenant-Colonel H. Worsley,
Commanding 7th Bengal Native
Infantry.

It would be dangerous to entrust firearms to such men. Besides, cook-boys, mehters, &c., under proper arrangements would never be exposed to hand-to-hand conflicts. Whereas, bleesties have quite enough to do to carry their *musuks*. Perhaps on service *tulwars* might be issued to all followers, but certainly not firearms.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infan-
try.

A medical examination at time of entertainment, as in the case of recruits, would at least ensure their physical fitness to encounter the hardships of a campaign. The best weapon of defence they can have is an Afghan knife, whilst quarter-masters might organize some simple method of occasionally instructing them how to use their weapon in the most effective manner.

Lieutenant-Colonel L. H. Wil-
liams, Commanding 14th Sikhs.

I would suggest that they be each supplied with a *tulwar* when the regiment is ordered on service.

Lieutenant-Colonel F. G. Rogers,
Commanding 20th Punjab Native
Infantry.

They should be enlisted as are sepoys, and bound to serve for a stated period. All should, moreover, be trained to act together in small bodies, and to use swords and revolvers with which all should be armed.

Lieutenant-Colonel F. B. Nor-
man, Commanding 24th Punjab
Native Infantry.

I do not consider that any improvement could be made either in en-
listing or organizing these men. On service they are allowed swords,
and are not more defenceless than buglers.

Lieutenant-Colonel J. Hudson,
Commanding 28th Punjab Native
Infantry.

In the first place, all men of this kind entertained for service with
regiments should be younger and more able-bodied than most of them
now are. All followers should be medically inspected, and just as much
care taken to insure all being fit for active service as is taken with the
rank and file of a regiment. Then again they should be armed and
taught how to use their arms, at all events in self-defence. There would
be no difficulty in doing this.

All the cooks in a regiment should be taught to be useful as assistants
in the hospital.

Lieutenant-Colonel G. C. Bow-
croft, 35th Native Infantry.

This question can scarcely apply to the 31 individuals forming the
authorized non-combatant establishments of a regiment of Native in-
fantry (Hindustani). But even with them, a system of medical exami-
nation as to physique and a course of gymnastic exercise, and sword and
shield drill, would render them more self-reliant and useful than they are
at present.

Lieutenant-Colonel F. M. Arm-
strong, Commanding 45th (Rat-
tray's Sikhs) Native Infantry.

The system of entertaining the regular regimental establishment
is simple, and could not, I think, be improved on. These men were
never in the last campaign found to be very helpless; a *tulwar* is
all they require. How the extra establishment of doolie-bearers, mule

and camel drivers, supplied to regiments were entertained, I have no idea.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major A. C. W. Crookshank, 32nd Mhowera.

More care should be taken about the kind of men entertained, and they should be of better physique than they are at present. They should be armed when on service with some Native weapon, in the use of which they might be trained; but it would not be safe to trust them with firearms.

Not as regards their entertainment; but I would require them to wear a simple uniform, drab blouse, *pultees* and pants, and I would have them all drilled in squad drill and the firing exercises, so as to give them an idea of forming together and using a rifle. I would also equip them with a brown belt and a light country *tulwar* (not the hussar swords, which made our followers a laughing stock in the late campaign and often proved the means of their execution).

All regimental followers should be medically examined, and only those enlisted who are physically fit. Before going on a campaign, officers' servants should also be medically examined, as, when they fall ill, they cause the utmost inconvenience.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

All regimental followers should, I think, be made to wear a uniform, so as to be easily recognized, and should be placed under charge of a non-commissioned officer of the regiment they belong to, and be armed with swords. Kahars, if Punjabis, would, if treated similarly, be less helpless than they are; but kahars from Oudh, &c., appear to be totally unable to protect themselves, even if given arms for the purpose.

Major A. Battye, 2nd Goorkhas.

Lascars or klassies are the only followers who could be armed and drilled. They should be given breech-loading snider carbines and sword bayonets, and their pay increased from Rs. 5-12 to Rs. 7. Bhecties would make good enough soldiers, but could not carry their arms, as a *musnak* with water in it is a sufficiently heavy load.

Major F. F. Rowcroft, 1th Goorkhas.

I confess I cannot suggest any improvement, nor do I see how such men, as bunneails, barbers, dyers, shoemakers, &c., can be organized in any way. During the late war all the regimental klassies were armed with swords provided by, I think, the ordnance department.

Colonel H. Bolaragan, Commandant 4th Sikhs.

The regimental system as obtains already in corps efficiently commanded, which should ever be self-supporting in all respects; give them a cheap uniform, certainly a distinctive *pugri* and a *tulwar* for defence. Most Asiatics know to use this weapon.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

The only suggestion I can offer is to arm each with a Native *tulwar*, which some can use. A long cavalry sabre with which followers with Kandahar column were armed is worse than useless and only an encumbrance. Being non-combatants, they are entitled to protection in an enemy's country.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Native Infantry.

I cannot. The large mass of camp-followers attached to an army in the field are entertained for the occasion. In camp a system of discipline should be maintained amongst them, which would prevent their staying beyond bounds and ruining the chance of being cut up. On the march the nature of their duty compels them to go along in a very defenceless manner, and they must trust to the protection of the troops.

Major A. G. Ross, Commanding 1st Sikhs.

I have a system; and entertain for each work only those who can do it, e.g., kahars for doolie-bearers, muleteers for mules, &c. Do not take any human being you can sweep together.

Give followers short good swords like ordinary *tulwars* or swords driver, and they will soon take to using them. I do not see what organization can be arranged for men so diverse and scattered in work.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

The whole of the followers of a corps might be armed with carbines and, with the drummers, formed into company for drill and instruction. The most helpless man in a regiment seems to me to be a drummer.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

Considering the duties that these classes of men have to perform, much organization cannot be expected of them, and I am unable to suggest any plan that would improve their organization.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

The lascars, pukalis, barbers, and dhobis could be enlisted and trained sepoys.

Colonel W. A. Gibb, Commandant 25th Madras Native Infantry.

I have no improved system to suggest. We cannot make warriors of doolie-bearers, and they must be taken care of and protected; but their number might be reduced by increasing the number of sick carts, if it was a country where wheeled carriage could be used.

Lieutenant-Colonel F. H. Tyrrell, 87th Madras Native Infantry.

In the Madras army the few public followers are entertained by the commandant. There is no better way. They might be armed with swords when on active service, to enable them to defend themselves if attacked.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

Colonel S. Edwardes, Command-
ing 2nd (Prince of Wales' Own)
Grenadier Regiment, Bombay
Native Infantry.

The authorized followers, such as lascars, bhistees, &c., are enlisted and could be given a military organization without difficulty; but as doolie-bearers are only engaged when required, it would not be easy to deal with them in a similar way.

The question, I imagine, applies more to doolie-bearers than any other followers. These I would enlist and form into a corps and would give each man a short sword, something with which he might, to a certain extent, defend himself and not be in the way when carrying his doolie.

The followers which accompany a regiment on service are—

- (a) tent lascars;
- (b) bhistees;
- (c) doolie-bearers;
- (d) officers' servants.

(a) If pioneers were attached to regiments as suggested in answer 32, the services of tent lascars would not be required. In peace time the pioneers could take charge of the regimental tente, also fire-engines, besides attending to the instruction of the men in pioneer duties. On service, the tents would all be in charge of companies, and the pioneers available for superintending the clearing of camps, the construction of earth-works, roads, &c. Being armed men, they would defend themselves.

(b) & (c) Bhistees and doolie-bearers have always plenty to do and enough to carry without being burdened with any arms for their own defence. Arrangements must always be made for their protection.

(d) The number of officers' servants should be limited to a syce to each horse and a soldier servant to each officer. There is no way in which syces could be entertained with the view to arming them and making them capable of defending themselves.

No troops should be allowed any servants; they must wait upon themselves.

Colonel R. Mallaby, Command-
ant 13th Bombay Native Infantry.

It seems to me that if these men are in their legitimate place, their surroundings would sufficiently protect them. To require them to carry arms would be encumbering them with weapons which would be in their way in the performance of their duties; they might be provided with short swords; a revolver in their hands might be as dangerous to friends as to enemies.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

I cannot suggest any improvement, but more care should certainly be taken in entertaining doolie-bearers, none but really able-bodied men in good health being passed. This was not attended to during the past campaign, as is too well known. Regarding any organization that would make them less defenceless, I can suggest nothing except that they should be provided with light handy swords (Native pattern), and, if they have not courage to use them when required, they should never be exposed to danger except when well protected.

Colonel J. Fairbrother, Com-
manding 22nd Bombay Native
Infantry.

I should think it would be very easy to improve their condition so far as lascars, mahouts, drivers, i.e., of camels, carts, mules, bullocks, &c., are concerned. Give them a military organization under their own officers; arm them with swords, pistols, carbines, as may be found necessary; lascars to be taught gun drill also; then on ordinary occasions no escort party would be necessary; the drivers, &c., would be able to guard the stores in their charge. Sir Charles Napier's Sind camel baggage corps would prove to be a good model. As regards doolie-wallahs and such like followers, the only way I can suggest for improving them is to be more particular in engaging them.

38. The general station hospital system is more economical than the regimental one: do you consider that this system can be worked in the Native army?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

It is more economical, but there are the following disadvantages to the general station system—

The distance of the general hospital from the lines of the regiment, and consequent inconvenience and discomfort to the men, who much prefer being treated in their own hospital and by a medical officer acquainted with them, and a regiment being ordered on service, a stranger is at once appointed who knows nothing of the men.

The hospital equipment will not be forthcoming at the general hospital, whereas under the present regimental system a Native regiment can start at a moment's notice, always having its equipment ready.

Colonel H. S. Obbard, Commanding 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, Commanding 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harrie, Commanding 11th Native Infantry.

Lieutenant-Colonel R. J. Walker, 37th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

I do not think it could be worked with advantage. I would at all times keep Native regiments as distinct as possible. I do not think there would be much economy, while the general discomfort would be great, the good feeling that is fostered between the officers, the medical officers and the men under the present system would be much curtailed, and I should view the aggregation of sick as a very great disadvantage.

The general station hospital would not answer at such stations as Peshawar, or anywhere there were more than two Native infantry regiments, and they not in lines contiguous to one another.

I do not see any objection to the station system.

Of course the general station hospital system can be worked, but I consider it undesirable for the following reasons:—

(1) In the majority of cases regiments are located at such distances apart that one hospital would be almost out of the question.

(2) Men would, in the event often of serious or prolonged illness, be unable to obtain the services of their own comrades of the same class and regiment to attend on them.

(3) They would be under the treatment and care of medical officers unacquainted with their constitutions; in many cases so necessary to obtain correct diagnosis of the cases, and corresponding treatment, while if treated in their own regimental hospitals, by medical men who belonged to their regiments, and who would know something of them, and naturally have a personal interest in them, they would be better cared for, and, when necessary, could always have the attendance of their own comrades of the same class and regiment.

The general hospital system, even if better and more economical in most respects, would undoubtedly lead to increased malingering.

The general hospital system is certainly applicable to the Native army, and would prove both more economical and efficient than the present one. I believe this would be the case both in garrison and on service.

It stands to reason that one large hospital could be worked more economically than several somewhat smaller ones; but whether considered in respect to the buildings, medical staff, menial servants, supply of medicines, surgical instruments, &c., the general hospital system commends itself both on the score of economy and efficiency. During war many medical officers would doubtless have to be withdrawn from the general hospitals to accompany troops in the field, but their places could be supplied by the temporary withdrawal, as at present, of medical officers in civil employment, whose duties again could be taken by the now large and well qualified class of assistant surgeons. The pension establishment could supply as many hospital assistants for station duties as might be necessary to release the numbers required for field service. All details necessitated by the change would be worked out, of course, by the medical department.

The great distances between the lines of Native corps would make the general station hospital system work with great difficulty. Besides in most stations cholera is by no means uncommon, and on the slightest outbreak whole regiments have to move into camp on a notice so short, that a hospital with its attendants could not be organized in time to be of any use; and the same remarks would apply to a regiment on the march. I think therefore it would be impossible to work the station hospital system so as to give satisfactory results.

Most certainly not, either for the good of the service or in the interests of the men: *vide* report D.

Report D.

Dated Peshawar, 8th January 1877.

From—Lieut.-Col. R. G. ROGERS, Comdg. 20th Punjab Native Infantry,

To—The Adjutant-General in India.

In obedience to your hospital No. ²²⁷_{Camp}, dated 3rd instant, I have the honor to report, for the information of His Excellency the Commander-in-Chief, that I am strongly opposed to the system of general hospitals, especially in garrisons or at camps of exercise, and that the feelings of the men of the regiment entirely coincide with mine on the subject.

On active service the establishment of general field hospitals is I know unavoidable, but I also know that the longer a man can be kept with his regiment the better for him, and that as at Umbeyla the men are apt to consider themselves doomed when sent away from friends and relations. No matter what its advantages as regards a larger staff, greater comfort or better appliances, no man can or will be so cared for in a general hospital among strangers as in a regiment attended by his own surgeon, nursed and fed by his comrade, and looked after and cheered by his officers.

I am, moreover, of opinion that faith in his doctor has (especially) among Natives a very great deal to do with a man's recovery. This in a general hospital can never be gained, and for this reason

I strongly deprecate changes of medical officers, changes which prevent doctors from knowing their men and the men their doctors and which offer such opportunities for malingering—opportunities which with a system of general hospitals would be almost indefinitely magnified.

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

I am strongly opposed to abolishing the regimental hospital system. I consider that in cantonments one surgeon can easily attend to the hospitals of two regiments, but that on service each regiment should have its surgeon. The surgeons who during peace would not be required for regiments could, as many are at present, be employed in the civil department. I am of opinion that the experience gained by a surgeon in civil employ adds to his value as a surgeon in time of war.

Lieutenant-Colonel J. Hudson, 28th Punjab Native Infantry.

Most certainly; and I can conceive no possible objection to it. As a matter of fact, it is of common occurrence to see one medical officer attending to the hospitals of two or three corps; it would surely be more convenient for him to have all in-patients under one roof.

Lieutenant-Colonel G. C. Rowcraft, 35th Native Infantry.

Not with advantage. In a general station hospital the men would not receive the same individual care and attention they do in the regimental hospital. They would not be so immediately under the observation of their commanding officer and wing commanders. They would not have the same confidence in the medical Native subordinates. They would have more scope for scheming and shamming. On a regiment being broken up into wings and detachments, or going to a station such as Cachar, the regimental system, or an inferior substitute to it would have to be organized; also on the regiment proceeding on service by rail, route march, or by sea.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

Undoubtedly it can be worked, but I think with no benefit, and with very little saving, and it would have many drawbacks. The men would be averse to go to the general hospital (probably some distance from their lines) unless seriously ill or sent there. By the regimental system the medical officer has the men always under his observation, is well acquainted with most of their habits and constitutions, can readily detect schemers. Every time the regiment marched by the general hospital system, a regular medical establishment would have to be told off to accompany it to its new station; great difficulty would be found in keeping up medical history sheets and obtaining other information, &c., &c.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

I think the general station hospital system could be worked in the Native army. The regimental system is certainly more convenient for the regiment, and likely to be more popular with the men, but I see no reason why, in a station where two Native regiments are quartered, with their lines not far apart, one hospital should not be made available for the sick of both.

Major A. C. W. Crookshank, 82nd Pioneers.

I don't think it would answer at all in times of peace, because Native regiments are not as a rule stationed together, and when they are, they are too far apart. In a Native hospital much is done for the sick by their comrades; they are nursed by them and generally fed by them, and the men are dependent on the regiment and its bazaar for all their wants: all this would be difficult in a distant hospital, even though each regiment had its ward. When, however, regiments were alongside of each other, there would be no difficulty in arranging for the men of each regiment being comfortably attended to in a general building. The Native clings, however, very much to the men he knows, be they saints or devils; and away from his own doctor, officers, and regiment, his heart sinks within him, and he conjures up the worst possible evils.

For war purposes I consider that the system which in India has grown up to meet the requirements of active service is the safest, provided it is not abused. Under that system a regiment has its own hospital, and within limited bounds takes care of its own sick, disgorgeing them at convenient depôts, where field hospitals are formed from the medical reserve. Indian campaigns require for Native regiments the utmost mobility and immediate readiness for a move.

The general system is more suited to the tactics of home campaigns, where troops are kept in large hodies and have better communications: it is also more suited to British troops, who are kept together and at brigade head-quarters.

I saw the field hospitals at Quetta and Kandahar, and the wonder to me was, not that the men died, but that they ever lived at all, so miserable did they seem, and so wanting in the ordinary medicines and stores. Whereas, when I joined the regiment, I found the hospital, though overburdened with sick, fairly well supplied and as comfortable as could be.

I am decidedly of opinion that Native corps should be self-contained, and viewing the strong prejudices of the Native soldier (which have to be respected, as they re-act on recruiting), I consider each Native regiment should have a medical officer, the establishment given in answer to question 86, hospital accommodation and transport for about 12 men,

and a field equipment fairly well stocked, not with the whole pharmacopœia, but the most valuable specifics. A reserve should follow the force for the formation of field hospitals, where all hopeless cases and the sick about 10 or 12 should be left. There will be abnormal cases like the 32nd at Grishik with a daily average of some thirty bad cases, but let us hope these will not be frequent.

Every endeavour should be made to treat the Native soldier at headquarters up to practicable limits in consequence of his extreme dependence on his regiment; he has no purveyor's department to feed him; he has to buy his own food (a difficulty when at a general hospital and he has no money and cannot get an advance or credit); and he generally has to cook it himself, except when absolutely beyond such exertions.

Certainly, it could. I can see no obstacle to it.

Captain H. D. Hutchinson, 40th Native Infantry.

Colonel R. Salo Hill, Commanding 1st Goorkhas (Light Infantry).

The general station hospital system could only be more economical than the regimental in case of a large reduction of establishment. In such case great difficulty would arise in time of war, or in case of detachments being sent on service, or when troops are spread over the country during epidemics—

- (a) For field service, one medical officer per corps is the smallest possible allowance, as this number must be always available.
- (b) The Native hospital establishment must be trained men. They cannot be extemporized; therefore they must be kept up in efficient numbers to provide for the requirements of active service.
- (c) The consumption of medicines would be much the same in station and in regimental hospitals.
- (d) Regimental hospitals are already built, while in many stations general hospitals would have to be provided. In fact, unless arrangements could be made for the rapid expansion of the Medical Department when necessary, by drafts from the civil branch, no economy would arise from the station hospital system. Even if this could be managed, efficiency would suffer.

Major A. Battye, 2nd Goorkhas.

It would be most detrimental to regimental efficiency and should be condemned on that account alone. Moreover, even with a regimental hospital, men do not resort to it as soon as they ought to do so. If there was only a station hospital, they would be more disinclined to go to it until their illness became too severe to keep away.

Major F. F. Rowcroft, 4th Goorkhas.

I do not think this system could be worked advantageously in the Native army. The *general hospital system* would be extremely unpopular with all ranks of Natives rightly or wrongly. They would be under the impression that out of their own regimental hospitals they would not be as well attended to or cared for.

Decidedly so.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

The general hospital plan may be more economical, but it is never so efficient as a regimental one, and, therefore, on *service* it would prove a false economy and destructive to the benefit of the corps and consequently to the best interests of Government. How could it be carried out effectively, say, with two corps in a station and one being sent out suddenly to the front under the medical charge of a Native hospital assistant? There *must* be a British medical officer with each regiment and a separate establishment.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

The general station hospital system is, I am told, theoretically perfect, but it is altogether unsuited to Native soldiers, who hate station hospitals because they don't get attended to in them; they don't get their medicine, their food, or even their water, and no one takes the slightest interest in them. Proof of this can be got by asking the men themselves.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

I do not consider it could. More supervision of regimental hospitals by principal medical officers of stations should be exercised than at present obtains.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

The regimental system is very much the best. The chief economy in the station hospital system would be in the reduction of British medical officers. Say working a station hospital where there were three Native regiments with one medical officer, instead of three regimental hospitals with a medical officer for each.

I do not think the number of medical officers could be reduced by a man even in times of peace in a country like this, where cholera and other epidemics are liable to break out periodically, and where a liberal establishment of doctors is an absolute necessity. If therefore a sufficient number of medical men must be kept up in times of peace, to admit of the regimental system being continued, let it stand.

Major A. G. Ross, Commanding
1st Sikhs.

No, not without trouble; and unless medical officers are men of larger sympathies than are most men. A hospital is meant to receive sick and cure them. Cure requires comfort and rest of mind, and no frotting. Natives of India vary so in habit and custom, that they are very uncomfortable in a general station or field hospital. They become mere numbers and are treated one like the other. They suffer in consequence and miss the specialities of attendance, which is comparatively easy to give them in a regiment. Few Native soldiers get on in a general hospital, and many suffer from insufficient attendance and attention.

Colonel A. Jenkins, Commandant
2nd Madras Native Infantry.

I do not consider the station hospital system can be worked in the Native army without causing intense dissatisfaction; for the sick of a Native regiment have to be fed by their relatives or comrades, and that could not be done satisfactorily when the sick are out of the personal responsibility of the officers of the regiment or beyond the care of comrades and relatives.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

I see no reason why the general station hospital system should not be worked in the Native army, the station hospital being of course in as central a position in the station as possible for the convenience of regiments stationed in it.

Colonel G. Hearn, Commanding
15th Madras Native Infantry.

Not with any satisfaction. It may be cheaper, but it would be most unsatisfactory; there could be no discipline, but much skulking. The present regimental hospital system is the best, and I think the establishment has quite enough to do. It is a mistake to relax discipline even in hospitals. Moreover, in a general hospital you would have men of all kinds congregated together.

Colonel L. W. Buck, Commandant
20th Madras Native Infantry.

I know of no objection to the station hospital system for the Native army, provided the general hospitals are not a very long distance from the regimental lines. The men provide their own food, and it is cooked by relatives and brought to the hospital.

Colonel W. A. Gibb, Commandant
25th Madras Native Infantry.

It could be worked, I suppose, but only to the great inconvenience of all concerned in the regiment, from the commandant downwards. Besides this, sick carriage would have to be entertained to take sick men the distance. At present all regimental hospitals are tolerably near the lines, and the men manage to get there which they could not do if the distance were great, which a general hospital is found to be. One surgeon and two hospital assistants are not very expensive for a regiment.

Lieutenant-Colonel F. H. Tyrrell,
37th Madras Infantry.

It depends on the locality. If regiments or battalions were cantoned close together, it might be worked.

In a station like Secunderabad, where the cantonments of the five Native corps are miles distant from each other, it could not be conveniently worked. I myself should always prefer to keep my own sick in my own regiment.

Lieutenant-Colonel P. A. Carnegie,
39th Madras Native Infantry.

I see no objections whatever. We had to share the hospital with the 17th Native Infantry at Tounghoo in 1875-76, and the men got on well together. There were separate medical staffs for each regiment, but one set would have sufficed.

Major E. Faunce, Commanding
14th Madras Native Infantry.

Certainly, it is a common saying that the surgeon of a Native regiment has nothing to do, and he has very little. The surgeon of my regiment has for months held also medical charge of a wing, 11th Madras Native Infantry, and the head-quarters, and wing, 19th Madras Native Infantry, and his duties certainly do not seem to occupy overmuch of his time.

Brigadier-General H. F. Brooke,
Adjutant-General, Bombay Army.

It is I think most important that each regiment should be complete in itself, and ready to move at short notice, because, as a rule, regiments, or parts of regiments, are more likely to be employed, on emergencies, in India than brigades or divisions. I am opposed to any reduction of the medical executive staff in India, and consider the regimental hospital in all respects better for the local requirements than the station or general hospital.

Brigadier-General A. B. Little,
Commandant 25th Bombay Native
(Light) Infantry.

I think there would be no objection to the general station hospital system, as far as I can see, being worked in the Native army. It would be more economical, no doubt, and at the same time the wants and comforts of the men would receive the same attention as at present.

I think, however, that in the reduction of establishments for such a system the requirements of British officers and their families should not be lost sight of, neither should such reductions of the medical establishment be made as to cause any difficulty to arise in the supply of a full complement of medical officers being forthcoming on a regiment being ordered to take the field.

Colonel S. Edwards, Commanding
2nd (Prince of Wales' Own)
Grenadier Regiment, Bombay N. I.

Yes certainly. I know of no reason why it could not be worked in the Native army.

Colonel W. Bannerman, 4th Bombay Rifles.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

Colonel A. Caraggy, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner, Commanding 29th Bombay Native Infantry.

Colonel J. Dorn, Commanding 27th Punjab Native Infantry.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

At large cantonments the general station hospital system might be established with economical results; the system could not be carried out at the smaller stations and where a single regiment was located.

Under the general hospital system the surgeons have but little opportunity of becoming personally acquainted with the men. A medical officer posted permanently to a regiment takes far more lively interest in all that affects their health and comfort; in a few years he gains a considerable knowledge of the individual habits and constitutions of the men. I consider that the regimental is far preferable to the general system.

Any general hospital system would be most unsatisfactory; the regimental system is the only one that can be worked efficiently and properly under discipline and control.

The general system encourages malingering, from medical officers not being thoroughly acquainted with the men, and in the field men would not be so well cared for.

What occurs to me is this: supposing the whole of the hospitals in India worked on the station system, on the breaking out of a war would there be a sufficient number of medical officers and subordinates to enable regiments to be fully provided if moving independently? I myself much prefer the regimental system under which the surgeon has an opportunity of making himself acquainted with each man and his complaints.

Certainly, with an equal amount of efficiency. One medical officer could easily attend the sick, usually found in at least three Native regimental hospitals. In small stations separate establishments would of course be necessary.

In Bombay and other large stations I think it might be introduced with advantage; but in smaller stations, where two Native regiments might be in charge of the medical officer of the general station hospital, a difficulty might arise by his having suddenly to accompany one regiment on field service, thus leaving the rest of the garrison without suitable medical attendance.

It might be; but this is a subject I never considered deeply. I know no reason why it should not.

I think it might in cantonments, but in the field I think medical men should not be withdrawn from regiments to base hospitals, as they were in Afghanistan.

39. Can you suggest a better and more economical system in the place of the present one for compensation for dearness of provisions?

The only other system that occurs to me is that of rationing the troops by the commissariat; but whether it would, in the long run, be a better or more economical one, I am unable to judge. Besides, I doubt the men liking it so well as having to purchase and select their own food.

No, I cannot. I do not think an issue in kind would be any more economical, while it would occasion much trouble to the commissariat department, and it might be viewed with suspicion by the Native soldier.

It should not be given to any man beyond the grade of sepoy. It should be *limited* to two rupees (excepting under the most exceptional circumstances), and the men should be made to understand that, *in addition* to his pay, when his rations come to beyond Rs. 3-8, this is given him, to the maximum extent of two rupees, as a *help* to feed himself with in the same way that on arriving at a place where lines have to be built a *certain* sum only is given him as a *help* to hut himself.

I cannot suggest any plan which would be more economical; but in future I would restrict the indulgence to naicks and sepoys only.

With the prices of provisions varying so much as they do in different parts of the presidency, the only suggestion I can offer is to do away with the compensation altogether except in certain districts, such as Assam and the lower north-east portions of Bengal, &c. In substitution of the system of compensation for other parts of the presidency, I would recommend that the average rate of compensation granted within the last 10, 12, or 15 years be obtained, and this sum be granted to the army as a fixed rate, whenever quartered where the price of provisions rises above the rate now ruling as that beyond which compensation has hitherto been allowed.

Lieut.-Colonel H. Worsley, 7th
Bengal Native Infantry.

Considering the enhanced price of provisions since the time when the present rate of pay was fixed, no doubt some compensation is necessary; but the form in which it is now given is objectionable. The men do *not* spend the money so received in food, but look on it as money saved.

It might be better to do away with compensation altogether, and in lieu increase the pay by a certain amount, which amount might be approximately regulated by the average compensation for all Bengal during the past five years. When troops are in the field or at camps, food might be supplied by the commissariat either free or at a fixed rate according to circumstances.

Lieut.-Colonel P. Harris, 11th
Native Infantry.

I am unable to suggest anything more economical than the present system.

Lieut.-Colonel R. J. Walker, 17th
Native Infantry.

The present system is very complicated, but I can suggest no real improvement.

Lieut.-Colonel R. G. Rogers,
Commanding 20th Punjab Native
Infantry.

No; the present system with its cheeks cuts the soldier as closely as he can be cut. A Government supply of rations in quarters would prove more expensive, and would be most unpopular.

Lieut.-Colonel F. B. Norman,
Commanding 24th Punjab Native
Infantry.

No. The present system is the only one which can be adopted with fairness to the men.

Lieut.-Colonel J. Hudson, Com-
manding 28th Punjab Native In-
fantry.

There is scarcely any point connected with a Native regiment which is, in my opinion, so unsatisfactory as the system of compensation for dearness of provisions, or one that gives more trouble.

I cannot see why the Native soldier should not take his chance with the rest of the population of the country in the matter of the price of provisions, at all events while serving in India in peace time.

During times of famine or unusual scarcity, the Government might make special provision to relieve him; but as a rule I would advocate the abolition of the present system of compensation, and insist on all supplies in sudder bazars being sold at fair rates.

Lieut.-Colonel G. C. Bowercroft,
35th Native Infantry.

I think the present system is the one best adapted to guard against the soldier under-feeding himself, and thus rendering himself inefficient or unable, on emergency, to make due return to the State. It requires careful observation on the part of commandants and wing commanders to see it is not abused. The only substitute for such compensation which suggests itself to me is a permanent increase to the soldier's pay and the abolition of compensation, though its economy and desirability are questionable.

Lieut.-Colonel F. M. Armstrong,
Commanding 45th (Rattray's Sikhs)
Native Infantry.

I am afraid not, unless any saving to Government could be gained by supplying regimental bazars with atta, ghee, &c., by the commissariat, deducting Rs. 3-8 monthly from the sepoy for the regulated rations. The Commissariat by buying largely might obtain the supplies cheaper than the bazar rates, by which the rates of compensation for dearness of provisions are now regulated.

Major A. C. W. Crookshank,
32nd Pioneers.

Certainly, a better and I think it would be more economical. The existing system is convenient administratively, works fairly well, and is so far plausible that it helps the soldier where he most needs it. But I do not like it, as practically it does not fulfil the intentions of Government, and it leads men to starve and feed on coarse grains so as to get a greater balance of pay after paying the bunneah. It is, moreover, peculiar to peace, and has to be dropped in war,—an utterly wrong principle. My idea is that a Native regiment, to do all the work required of an auxiliary army, should be able to feed itself in peace and war independently of all departments.

At present bunneahs buy their grain where they like, distribute it as required to the men, charging price-current rates *plus* 1/10th (an anna in the rupee) on it as an additional profit. This price current is supplied monthly by the deputy commissioner, and is fixed, I believe, by a meeting of sudder bunneahs. Now it is known to all that a Native's food can be purchased by individuals at cheaper rates, particularly if purchased wholesale. I would issue to each man his authorized ration (whether he ate it or not), and charge the value of the rations to Government, the commanding officer certifying to the price as the lowest obtainable and not exceeding the local price current. I have fed a regiment on this principle, and I see no difficulty in it; and it would develop a machinery and a system generally practicable in war, for there the commissariat officer would be the wholesale dealer, and issue food in bulk when possible, and when he was not present, the commanding officer, through his existing machinery, could purchase, requisition, or contract. Even if not economical, Government would get a good article for a market value, whereas now it does not purchase the article, and it pays a price fixed arbitrarily by interested sellers.

Colonel R. Salo Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battyo, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel R. Blair, 3rd Native Infantry.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

Brigadier-General H. F. Brooke, Adjutant-General, Bombay Army.

Brigadier-General A. B. Little, Commandant 26th Bombay Native (Light) Infantry.

Colonel S. Edwards, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment, Bombay Native Infantry.

Colonel W. Bauman, 4th Bombay Rifles.

Commissariat, local, or regimental agency might be employed to supply rations at the fixed rate of Rs. 3-8 per mensem. Under this system, cheap times would go to compensate for outlay incurred when food was dear. Payments could be made by credits in the general state, and all extra cost incurred could be recovered by contingent bills supported by vouchers. With the Native officer's improved position, &c., there is no necessity for granting compensation to any one above the rank of non-commissioned officer.

The present system appears to me to be a good one. I can therefore recommend no change.

No, I cannot. The present system seems to work well enough. It is not *always* that the men receive compensation for dearness of provisions, but only in times of scarcity.

Rations to be supplied by the commissariat, and compensation for dearness of provisions to be abolished.

I object to it altogether: *vide* my answer to question 35.

Take the average amount paid on this head during the last two years, and increase the soldier's pay accordingly.

The present system of compensation for dearness of food is simple and adequate. I do not think it exceeds the just rate that a soldier should receive. It is besides a well-known system to the Native soldiers, and therefore had best be allowed to remain as it is.

As this is intended to be a compensation for dearness of provisions, it must depend on the prices of supplies prevailing at the time, and is therefore always fluctuating. I think that a fixed sum to be paid monthly to the soldiers as rice money would be better than the present system, as the soldier would then be able to calculate monthly on a certain amount. This might be calculated on the average price of supplies which have prevailed for a certain number of favorable years; but of course the last two years which have been years of scarcity, nor even the present time when prices are still high, could be taken as a basis for calculation.

The men must be paid according to the price of their food. If they are insufficiently fed, they cannot do the work expected of them.

Rice is the only provision for which compensation is given in the Madras presidency, and that is fixed at the selling rate of third sort rice. The present system might be altered by taking the average price of rice in each collectorate or district for a certain number of years (say 10) and then fixing the rate permanently in each district for all Native troops serving in it.

Bearing in mind the extraordinary fluctuations which occur in the prices of the staple commodities of a sepoy's food, I think it would be hard to devise a system which would be more to the interests of the men than that now in force, though, I believe, many experienced officers would prefer a fixed addition to the pay; but this, it appears to me, would not work so satisfactorily, as in some districts and during some seasons, this addition might not meet the extra expense of living, while in other stations the additional pay would not be absolutely necessary. During the financial year 1878-79 the sum of Rs. 8,83,195 was paid to the sepoys of this army for compensation for dearness of provision. It is true the season was one of great scarcity and high prices, but the amount so issued is very large, and represents an average addition to the pay of each man of Rs. 3-9-0 per month. There is no doubt that the present system is very complicated and liable to be abused, but it appears to me to be on the whole, if carefully and honestly worked, the best which could be devised in the interests of the State, and to meet the requirements of local circumstances.

No, the prices of provisions fluctuating as they do.

I cannot suggest any improvement in the system now existing of granting compensation. I think it as fair a one as can be found.

No, I cannot. I consider the present system the most equitable mode, depending as it does on the prices ruling in the locality of the articles composing the ration of the soldier.

I would do away with altogether compensation for dearness of provisions to Native officers. I would increase the rates of pay of havildar, naik and private, rupees five, four and three respectively, and give no compensation for dearness of provisions to them unless there

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 18th Bombay Native Infantry.

Colonel Cragh, Commanding 19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Colonel J. Fairbrother, Commanding 22nd Bombay Native Infantry.

Colonel J. Doran, Commanding 27th Punjab Native Infantry.

Colonel H. S. Obbard, Commandant 41st Bengal Native Infantry.

was a famine. I would also suggest that the senior half of the lance naiks in a regiment get one rupee per month extra.

The prices of food grains vary so much from month to month that I do not think it possible to fix a rate of compensation which would be at the same time fair to the sepoy and more economical than the present one.

No, as compensation depends on market rates, any fixed sum as increase of pay would not meet the difficulty, and judging by past years, prices may be expected to increase.

I cannot, but I think it might have a good effect on recruiting, and probably be an ultimate saving to the State if an average was struck in the rates for the last say three years and the amount permanently added to the pay.

A board of experienced officers sat in Poona about four or five years ago on this very question, and suggested, I believe, an increase of Rs. 2 being made to the monthly pay of a sepoy in lieu of all compensation; but, for some reason, the suggestion was not carried out. If it was, a great saving, I feel sure, would accrue to Government.

This is a most difficult subject to deal with. In my pamphlet attached I suggest that an average be struck of the compensation given during the five years previous to 1873, and the amount permanently added to the men's pay; but since 1873 the prices of all grain have increased so enormously, that such a mode of disposing of the question would no longer be just to the sepoy. I can, therefore, suggest no remedy at present but the continuance of the system at present in force, viz., that of fixing the compensation monthly according to the *merck* published by the bazar authorities.

I consider it meets the purpose for which it is intended fairly; it might be improved, but I am at present unable to suggest a better,

40. Cannot the guard duties of troops in garrison be reduced? Can you give detailed suggestions as to the manner in which this may be done?

I am not aware how this can be done, but consider the very harassing duties of convoys and escorts might be lessened and taken by the police.

I think guard duties of troops in garrison may be reduced.

Of the station-guards enumerated in paragraph 1801, Bengal Army Regulations, I think those furnished for officers commanding divisions, districts, or garrisons might well be withdrawn. Guard for suttee and station bazars are not ordinarily furnished. I consider them unnecessary. The other guards cannot be interfered with.

But in addition to those enumerated in this paragraph, there are various guards detailed at stations that do not appear very necessary. At Morar, for instance, there is a bridge guard that was devised by General Olpherts to annoy the Lushkur. It has gradually been reduced to a havildar and three sepoys, I think it might well be withdrawn. The further side of the bridge is protected by a police guard.

There is a jail guard that appears quite unnecessary. I have known it outnumber the prisoners. As soon as the railway to Agra is completed, the jail itself had better be done away with.

There is a Resident's guard, which appears a superfluity; a treasury guard, which appears unnecessary, as military guards are not provided for treasuries at other stations.

Sometimes a commissariat guard is detailed to watch haystacks.

A guard is detailed for the artillery magazine, which I consider especially undesirable.

And, besides, there are numerous guards detailed to accompany stores, parties of troops, &c., &c., nearly all of which might be dispensed with. I see no necessity for a guard of Native soldiers with British troops marching in relief, &c., &c. The paymaster's treasure can be protected in the quarter-guard, and a couple of policemen or chowkidars can, with the departmental servants, effectually protect all stores.

It is the custom at Morar to collect all the unserviceable stores belonging to Ordnance Department (a great portion of which are not worth carriage) twice a year, and send them, under military escort, to Dholepoor, for conveyance to Agra or Allahabad, though there is a hullock-train running, that would take them much cheaper and better.

Of the guards detailed in paragraph 1803, the three night-guards for commanding officers' mess and hospital might well be withdrawn.

I consider the orderly duty, for which Native infantry soldiers are detailed, more harassing than their guards. And the exposure, in times of heat and wet, tells much upon the health of the men, especially Dogras and other hillmen.

The offices of staff officers are mostly widely scattered, and far from the Native infantry lines. Orderlies are required to be in attendance all day, and are sent about the station at all hours, with

most trivial communications that might well be deferred for the daily letter bag. There is also a great tendency to employ orderlies for purely private purposes, taking about notes, books, and newspapers.

Every staff officer might well be required to provide a couple of messengers for letter-carrying duty, when detail of most of the orderlies might be dispensed with.

Colonel T. Boisragon, Commanding 30th Punjab Native Infantry.

Colonel E. Dandridge, Commanding 40th Native Infantry.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

Lieutenant-Colonel H. Worsley, 7th Bengal Native Infantry.

Lieutenant-Colonel P. Harris, Commanding 11th Native Infantry.

Lieutenant-Colonel L. H. Williams, 11th Sikhs.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

Lieutenant-Colonel R. G. Rogers, Commanding 20th Punjab Native Infantry.

Lieutenant-Colonel F. B. Norman, Commanding 21st Punjab Native Infantry.

Lieutenant-Colonel J. Hudson, Commanding 28th Punjab Native Infantry.

Lieutenant-Colonel G. C. Rowcroft, 35th Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

All garrison duties should be taken by the *second* reserves. Regimental guards and orderlies have been reduced to the minimum number.

The only way I see of reducing the number of men on duty is by carrying out a standard plan for regimental buildings; the buildings to be so constructed and arranged as to admit of all their doors being watched by a single sentry.

With the exception of Calcutta, where the guard duties are very heavy in proportion to the Native troops in the garrison, I do not consider that these duties are excessive as a rule, or that they can well be reduced to any appreciable extent. This does not apply to regiments serving beyond the frontier, where the duties are necessarily much more severe.

In many garrisons, without doubt; but details must depend on local and temporary circumstances.

Commanding officers' guards might certainly be done away with, and in most cases the general's guard.

I presume garrison duties are referred to, and these depend so entirely on the requirements of individual stations, that it is impossible to offer suggestions that would be applicable to all.

The guard duties at Umballa, where my regiment is at present stationed, cannot, in my opinion, be reduced.

I think that jail guards, treasury guards, &c., might be allotted to the police.

Yes: let all treasure, commissariat, and other civil or semi-civil escorts and guards be taken everywhere by the police or by watchmen.

Do away with the guards furnished for the quarters of general, commanding, and other officers. Reduce the number of orderlies furnished, and utilize the post for all papers not of an urgent nature.

Speaking from the experience of the last three stations at which I have been quartered, I think that the guard duties in garrison are very light.

Of course there may be some stations, particularly those from which a garrison has to be found for a fort, where it may be possible to reduce the guards.

I would, however, suggest that the guard allowed to British corps when on the line of march (*vide* paragraph 1833, Bengal Army Regulations) should be dispensed with. In the month of December last, the 24th Punjab Native Infantry had, under the order above quoted, to furnish guards for two batteries of artillery, a regiment of British cavalry, and a regiment of British infantry. Lieutenant-General Maude ordered these guards to be discontinued, and I believe that the British troops were put to no serious inconvenience thereby.

I am of opinion that guard duties in garrison might be very considerably reduced; but the precise way in which a reduction should be effected in each case is scarcely practicable here. Guards over commissariat godowns, &c., should be furnished either by police or chowkidars.

Again, all regimental institutions, such as quarter-guards, bells of arms, store-rooms, magazines, &c., should be placed close to each other, so that they might require the fewest possible number of sentries.

I have none such to offer. The duties are unequal at different stations. At Allahabad they are at the lowest point compatible with the proper carrying out of necessary duties. At Peshawar, with its large Native garrison, the duties are so heavy as to account for much of the great sickness at that station; and the greater the sickness the greater the severity of the duty. I have at times not had in the lines a full relief for the number of men coming off duty of a morning. The severity of the duty at Peshawar was unavoidable when I was there last in 1877, with its then garrison, which had more duties to perform and detachments to furnish, with fewer regiments of 712 men each, than in 1856 with more regiments, each 1,160 strong.

In many stations I think guards could be reduced; in some stations regiments furnish large jail and bazar guards, which might be taken by the police. General officers and regimental commanding officers do not appear to need night guards at all stations. Many orderlies might be reduced in most stations.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major R. A. Wauchope, 14th Sikhs.

Major A. C. W. Crookshank, 32nd Pioneers.

I do not think they can. Regimental guards are reduced by regulation to a minimum, and any further reduction is not, in my opinion, possible, or, in the interests of the regiment, desirable. I have never seen unnecessary station guards.

There are no duties for the troops in Umballa except regimental, and supplying orderlies to the staff.

I hardly think they can, as every endeavour is made to reduce the duties in garrisons. No civil guards are furnished, except in Calcutta; and, where the duties are excessive, it rests with the officer in chief local command to remedy matters.

There is a needless waste of military labor in escorts, and it is common to see escorts detached to a common destination shortly after each other, which might have been amalgamated by a little arrangement. Again, any amount of powder and ammunition may be sent by private firms through the Government bullock-train without escort, yet a barrel of Government gunpowder or a few rounds of shell require a military escort. This is the normal condition of affairs at Jhelum, for instance, where practically the postmaster judges when an escort is required or not. This duty can be reduced, and, except for a large convoy, the transport or escorting of ordnance stores might safely be left to the road police, a few special precautions being taken. These duties interfere much with a soldier's training.

Another duty which ought to be reduced is detailing a Native guard to protect the commissariat stores of a British regiment on the march. The reason I have always been given is that the British soldier cannot be trusted to protect his own rum. If so, he should go without it: it is a disgrace to a British regiment to require such assistance, and it stands to reason that, if a guard is wanted, the regiment itself should furnish it.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

The guard duties as laid down in paragraph 268, Standing Orders, cannot be reduced in a regiment, except a guard for the commanding officer, which seems utterly unnecessary. The officer commanding troops in garrison would see that more guards were not furnished than were absolutely necessary.

Native regiments might be relieved of many guard duties by the military police, as suggested in paragraph (i), answer to question 26.

Major A. Battye, 2nd Goorkhas.

Have not had sufficiently recent experience of these duties at large stations. Regimental hospital guards are not always required except when there is a prisoner in hospital.

Major F. F. Rowcroft, 4th Goorkhas.

I think the duties can be reduced in ordinary stations and garrisons by reducing the guards and, consequently, the number of sentries. How often a sentry is to be seen guarding *nothing*! In stations where there are large arsenals, magazines, or treasuries, the guards over these places could not well be reduced; but I think that Native soldiers might be relieved of a good deal of the escort duty they get,—escorting magazine and arsenal stores up and down the country, and for long distances. This duty might well be performed by the police.

Colonel R. Blair, 8rd Native Infantry.

Yes; the commanding officer's guard, and the hospital one.

Colonel H. Boisragon, Commandant 4th Sikhs.

Guards and orderlies have been reduced to the minimum strength. Such minor details should be left to the discretion of officers commanding regiments, garrisons and districts.

Lieutenant Colonel J. J. Boswell, Commanding 2nd Sikh Infantry.

The duties in each station vary, and each guard would have to be considered. I consider in frontier stations the minimum is used, and I know of none which it would be politic to discontinue.

Lieutenant-Colonel B. R. Chambers, Commanding 6th Punjab Infantry.

The guards to be furnished by troops in garrison as detailed in Bengal Army Regulations are not very numerous, and I do not think would bear much reduction.

Major A. G. Ross, Commanding 1st Sikh Infantry.

In stations where I have been, I do not know of any feasible reductions, save guards of commanding officers and general officers.

Colonel A. Jenkins, Commandant 2nd Madras Native Infantry.

I do not think that the troops are overworked in garrison by guard duties.

Colonel W. Osborn, Officiating Commandant 9th Madras Native Infantry.

In all stations every effort is made to make the guard duties as light as possible, and I do not know of any other arrangement which could be made compatible with discipline.

Colonel G. Hearn, Commanding 15th Madras Native Infantry.

The guards are at present reduced to a minimum.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

I suggest that the offices of all staff officers should be in one building. Where there is a civil treasury or bank, all payments should be made by cheque; treasure chests not to be kept in any office; armed guards to be used only over buildings containing treasure, arms and ammunition, and prisoners; other places to be watched by one or two unarmed orderlies. Native regiments require only the quarter-guard to be an armed guard.

Colonel W. A. Gib, Commandant 25th Madras Native Infantry.

I believe the guards in most stations in the Madras presidency are reduced as much as they can be. Only three men are allowed for each sentry, and there can be no reduction there; and yet the men have seldom more than four nights in bed, and often not that; and this knocks them up, in my opinion, more than anything else, more even than hard work or short rations. Officers commanding divisions and districts are entitled to a guard of 12 men. This, to give them four nights in bed, the regulation number, means occupation for 60 men. The guard might well be reduced, I think, to six privates.

Lieutenant-Colonel F. H. Tyrrell, 37th Madras Native Infantry.

I think reductions might be often made in the strength of some guards, and in the number of orderlies. In many instances guards might be replaced by departmental peons or watchmen; but this would cause extra expense to Government. In peace time the more the services of the military can be utilized for the benefit of the State the better.

Lieutenant-Colonel P. A. Carnegie, 89th Madras Native Infantry.

Yes; I think they could be reduced in many of our large stations if offices could be located nearer to each other than they are. A mess guard for a Native infantry regiment is scarcely required now-a-days, or a commanding officer's night guard. Guards-of-honor appear to be unnecessarily large for any practical purpose; and orderlies should be more sparingly given than they are at present.

Major E. Faunce, 14th Madras Native Infantry.

Undoubtedly they can in many stations be reduced. I know stations where the commissariat have two and three guards, sometimes large ones; here in Calcutta, with far larger stocks, it has none: police are employed. Why should they not be elsewhere? The arsenal at Calcutta has only one small guard of one corporal and three privates (Europeans), and that only at night; while stronger guards mount day and night over small depôts. In some places, again, jail guards are still furnished by the military. At Raipore and Seroneha in the Central Provinces it is so, I remember. Why should guards mount over the empty houses of Governors and Lieutenant-Governors and Chief Commissioners for months during their absence? The security of the building and property could surely be ensured by one or two policemen quite as well as that of large custom-houses, &c., with their valuable contents. The same may be said of the presidency banks. Private banks do not feel the want of military guards.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Light Infantry.

Guard duty is brought, I think, to as low a rate as possible; and I can offer no suggestions as to how it can be further reduced to any appreciable extent.

Orderlies are, I think, often granted to officials who merely make use of them for their own private convenience, and the general station hospital system might also reduce guards slightly; but such reductions would be so small, that they may be hardly worth taking into consideration. However, I can offer no other suggestions.

Colonel S. Edwards, Commanding 2nd (Prince of Wales's Own) Grenadier Regiment Bombay Native Infantry.

Yes. In the first place, a reduction might be made in line guards by placing all treasuries and jails under the charge of guards from local or police battalion; also all sudder bazar charge.

With regard to regimental guards, I will take Nusseerabad, where my regiment is quartered at present. The quarter-guard is in one place, the cells in another, the magazine in another, and the stores in another, each requiring a separate guard and sentry for its protection.

There is no reason why these buildings should not be located all together in the form of three sides of a square, the quarter-guard and cells in one building, with the magazine on one side and the stores on the other, thus requiring but one sentry to watch them all.

I do not think the guard duties of troops in garrison can be reduced to any considerable extent.

In most stations many guards might doubtless be reduced in strength, and others done away with altogether; but this appears to be a question which might best be answered by station authorities.

Guards have been reduced as much as possible at all stations I am acquainted with.

I have no suggestion to make. I think these duties are carried on as economically as possible for the troops. There might be fewer men employed on orderly duties.

Colonel W. J. Bannerman, 4th Bombay Rifles.

Colonel G. W. Hanson, Commanding 9th Bombay Native Infantry.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Colonel A. Carnegie, 21st Bom-
bay Native Infantry.

Colonel J. Fairbrother, Command-
ing 22nd Bombay Native Infantry.

Lieutenant-Colonel O. V. Tanner,
Commanding 29th Bombay Native
Infantry.

Several guards in cantonments are certainly unnecessary, and their duties could be equally well performed by the police, or by chowkidars. Latterly, military guards in the Bombay presidency have been considerably reduced.

With the exception of the arsenal and gun carriage factory guards, the others in Bombay may be said to be civil guards, *viz.*, the mint, high court, paper currency, and Bank of Bombay; but as these have been fixed by orders of Government, it is scarcely my province to say whether they might be taken by the police or not with advantage.

Do away with jail and treasury guards, make them over to the police, mass the troops in central positions and hill stations, when their training in large bodies could be carried on as at camps of instruction.

I do not see that guard duties of the regular army can be much reduced, now that the inner guards of jails are taken by the police.

41. What do you consider to be the results of experience in the working of the medical and hospital system as practised generally in India and during the recent operations in Afghanistan?

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

That the regimental system, as far as it went, worked efficiently; and in no one particular—hospital assistants, medicines, surgical appliances, &c.—was there any thing in excess of requirements. It had of course to be supplemented by the establishment of organized dépôt hospitals, where, on receiving orders to advance, the regiment could leave their sick, &c., &c.

Colonel H. S. Ohbard, Com-
mandant 41st Bengal Native In-
fantry.

So far as my experience goes, I think the working of the medical and hospital system as practised generally in India satisfactory and suited to the country. Native doctors should, with reference to their educational attainments and responsible duties, be allowed to rank with Native officers.

I did not see the working of the hospital system in Afghanistan; but there are certain principles that must always be observed on field service. There must be medical officers with regiments to attend to cases as they occur; and men disabled in any way must be sent to the rear, for which a suitable hospital train must be provided.

Colonel B. Dandridge, Command-
ing 40th Native Infantry.

I consider the result of experience in the working of the medical and hospital system as practised generally in India is that in peace time, if expensive, the system at any rate provides thoroughly for the wants of the soldiers, both European and Native. I had no experience of the campaign, but am of opinion generally that, unless it be intended to reduce the medical staff, both European and Native, the regimental system in war time is preferable to any less expensive one. A regiment without its own medical staff and appliances would not be able to move on an emergency without depriving a general hospital of the services of those who probably could not be spared.

Colonel G. W. Fraser, Command-
ant 39th Native Infantry.

I consider it to be as regards the Native army very good. The sepoy is at all times well cared for; and where medical officers are kind and attentive to the patients, as is in most instances the case, the sepoy of whatever class, when ill, never shirks going to the hospital for treatment. I think it would be an advantage, however, were medical officers of regiments changed less frequently than they are, in view to their becoming more intimately acquainted with the men, and the constitutions of those who are more frequently in hospital, and learning to take more personal interest in the men. Medical officers, as a rule, appear to me to do their best to get into civil employ rather than remain with a regiment, the consequence being that a Native regiment is constantly changing its medical man.

Of the results of the medical and hospital systems as practised during the late operations in Afghanistan, I am unable to speak from experience, having only rejoined my regiment from furlough six weeks before the close of the campaign, it not having gone beyond Ali Musjid, where it only arrived at the latter end of March last.

Lieutenant-Colonel P. Harris,
Commanding 11th Native Infantry.

I do not feel myself competent to pass an opinion on so extensive a subject as the working of the medical and hospital system generally in India, but I may briefly state some of its defects during the late campaign which came under my own personal observation. To begin with, the medicine chests with which the regiment was provided consisted of an enormous pair of camel trunks. The strongest camel procurable was allotted to carry them; but they were no sooner placed on his back than

he threw his load, and almost everything in the boxes was smashed to pieces before we left our original station. These trunks were our *dala noir* throughout the campaign. No camel could be found to carry them, as they weighed over 6 maunds when full; and we had at last to have small ones made up roughly by the regimental armourer out of old tea boxes to carry some of their contents in. It is obvious that such encumbrances as these should not be taken into the field; indeed, there can be no good reason why such "monstrosities" should exist anywhere. Each regiment ought to have three, or at least two, pairs of conveniently constructed chests, which, when equipped, would form a light muleload. The 36th Madras Native Infantry were provided with excellent ones.

There appears also to have been a deficiency of medical officers. For instance, at Budesh Kheyl, where the troops consisting of details given in the margin and including camp-followers and kahars numbered about 2,000 souls, there was only one medical officer for the whole force, at a time too when cholera was prevalent. After a considerable time and repeated representations relief at last came in the shape of a second medical officer.

Then there was evidently a deficiency in the supply of medicines. Our medical officer frequently informed me he could not get his emergent indents complied with. On 11th July I proceeded to inspect the wing of my regiment at Thull. I found them in cholera camp and suffering severely from fever as well; yet there was not a drop of laudanum in hospital, nor a grain of either quinine or febrifuge. These medicines, when urgently required, were provided from the private medicine chest of an officer of the regiment. I mention these circumstances as proving that the medical resources of the campaign were, in some instances at least, not equal to the occasion, and should be provided for on a more liberal scale on the next occasion.

Lieutenant-Colonel R. J. Walker,
17th Native Infantry.

I consider the system adopted in Native hospitals very good. The latter part of the question I am unable to answer, not having served in Afghanistan.

Lieutenant-Colonel R. G. Rogers,
Commanding 20th Punjab Native
Infantry.

Satisfactory, with exception of the supply of European medicines and of hospital comforts to Native regiments. The allowance should be largely increased, and medical officers in charge allowed (as in British regiments) to obtain what they may at any time consider necessary on emergent indents.

Lieutenant-Colonel F. B. Norman,
Commanding 24th Punjab
Native Infantry.

In my answer to question 38 I have stated that I am opposed to abolishing the regimental hospital system. There was but little novelty in the general principles.

Of the hospital system as carried out in Afghanistan, as far back as the Peninsular war, if not earlier, there existed a system of field and base hospitals; and it is evident that there must always be hospitals of this description, for it would be impossible for an army to move about hampered with all its wounded and sick. I consider that the objections to the system as practised during the recent operations are as follows:—

1st.—That the regimental hospital establishments were weakened to the verge of inefficiency to supply establishments for the field hospitals.

2nd.—That, more particularly at the commencement of the operations, the regimental hospitals were cleared too rapidly, and that men with but slight ailments, and who would have been fit for duty in two or three days if they had been treated in the regimental hospital, were sent to the base hospital, and their services lost for certainly not less than ten days.

3rd.—That patients were taken away without any urgent necessity from those who were acquainted with their medical histories and characters, and placed under strangers. The result of this was that men who were really sick preferred being treated in the regimental hospitals, whilst the skulkers preferred going to the base hospitals.

4th.—That a strong feeling of antagonism was evinced on the part of a few of the medical officers to a commanding officer taking any interest in the sick of his regiment; these medical officers maintaining that, directly a man was admitted to hospital, the commanding officer's duties regarding the man ceased, and in fact that he should only be allowed to see him on sufferance.

In short, I am of opinion that to keep an army in a state of efficiency, by preventing skulking and rapidly sending back to their duty men with slight ailments, regimental hospitals should be maintained in a high state of efficiency. There of necessity should be field and also a base hospital; but I would avoid using these without necessity: any large collection of sick is to be avoided. I think I am right in saying that the first case of typhoid at Lundi Kotla occurred in the field hospital.

On the whole very good.

Lieut.-Col. F. M. Armstrong,
Comdg. 45th (Rattray's Sikhs) N. I.

Major R. S. Robertson, 4th Native Infantry, Officiating Assistant Adjutant-General, Allahabad Division.

Major A. C. W. Crookshank, 82nd Pioneers.

Colonel R. Sale Hill, Commanding 1st Goorkhas (Light Infantry).

Major A. Battye, 2nd Goorkhas.

Major F. F. Rowcroft, 4th Goorkhas.

Colonel H. Boisragon, Commandant 4th Sikhs.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

Lieut.-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Major A. G. Ross, Commanding 1st Sikhs.

I have always found the system work well, though no doubt it is capable of improvement. My experience, however, on this subject is small, and I have had none in regard to the recent campaign; and I do not feel competent to make any suggestions, or to answer the next question, number 42.

I have already answered this question in answer to question 88. The new field hospital system is only partially applicable to the Native army. The field hospitals may be established on the system now advocated at home; but the Native regiment, instead of receiving its unit when detached, should always carry its unit with it. In Afghanistan, when our men were struck down with pneumonia, it was providential that we had our regimental hospital in working order.

The hospital system adopted in Southern Afghanistan did not appear to differ materially from that which has always existed in India.

Each regiment had its own medical officer and ordinary hospital establishment, and there were general or base hospitals at Quetta and Kandahar.

Base and field hospitals are of course necessary for an army in the field, as it would be embarrassing to carry a large number of sick and wounded; but the regimental hospital establishment must still be kept up when corps are liable at any moment to be sent to a distance on detached duties. This being the case, it is just as well that, while the force is stationary, the sick and wounded, if not in too great numbers, be treated in the regimental hospital. On an advance they should be sent with the field hospital.

Sick and wounded men generally do better in small than in large hospitals, while there is less risk of infectious disease spreading in the former than in the latter.

Southern Afghanistan was no exception to this rule.

In countries where the general convention is not recognized, and where the sick and wounded have more to dread from the enemy than men under arms have, any great extension of the field hospital system becomes difficult, owing to the guards and escorts required. This difficulty is increased in case of long lines of communication without railways or wheeled carriage.

Present system works well enough in garrison, also on service, with following exception. At the base hospital a military officer is required to take command of all the men who are sent there, to report their arrival to their regiments, to keep a nominal roll of them, see that they receive proper advances of pay. When discharged to rejoin their regiments or sent on sick leave, report the facts to their regiments, send monthly accounts of all advances made. The medical officer has quite enough to do to look after their bodily ailments, and cannot attend to the above-mentioned requirements. The want of such a military officer at the Peshawar base hospital was felt during the Cabul expedition, when there were too many men in the hospital to be attached to regiments stationed at Peshawar, especially as these regiments were liable to be moved at short notice.

I consider the present system jogs along, so to speak, fairly enough during *peace time*. But during the late war in Afghanistan the system was very inefficient often, and the medical arrangements often nearly broke down. The *kahars* were a source of endless trouble,—a mob of stupid, undisciplined, disorderly men, without any organization. These men were hurriedly entertained from all parts of the country. A very great number of these men were *not kahars* at all, but had been forcibly seized and impressed by the police of the various districts, and forwarded on to the front as doolie-bearers. On active service, in the event of a retrograde movement, when a column of troops is passing under fire, through narrow defiles, an unorganized, undisciplined body of men like the *kahars*, panic-stricken, obeying no orders, and rushing forward trying to get out of fire, might greatly hamper the movements of the column and endanger its safety. But the above state of things *must necessarily exist* without a properly organized *army hospital corps*—an absolute necessity, I am of opinion, for active service.

I do not know the general practice in India, or how it was carried on in Afghanistan; but I am satisfied with the hospital system in my battalion.

I think that the regimental hospital system works well; it is good for the men, and it makes regiments complete in themselves and able to move at a few minutes' notice and secretly. It would be impossible to do this with the field hospital system, which is altogether too cumbersome and complicated for the Native army. On service the regimental hospitals must be supplemented by *dépôt* hospitals.

I have had no experience of other than the regimental system. I am of opinion that base and field hospital systems worked well.

Medical officers can answer this fully. I think base hospitals work well. So do field hospitals for people not attached to regiments.

Colonel A. Jenkins, Commandant
2nd Madras Native Infantry.

Colonel W. Osborn, Officiating
Commandant 9th Madras Native
Infantry.

Colonel W. A. Gib, Commandant
25th Madras Native Infantry.

Lieutenant-Colonel F. A. Carnegie,
89th Madras Native Infantry.

Colonel S. Edwards, Commanding
2nd (Prince of Wales' Own)
Grenadier Regiment Bombay
Native Infantry.

Colonel H. H. James, 10th Bom-
bay Native (Light) Infantry.

Colonel Creagh, Commanding
19th Bombay Native Infantry.

Colonel J. Fairbrother, Com-
manding 22nd Bombay Native
Infantry.

Lieutenant-Colonel O. V. Tanner,
Commanding 29th Bombay N. I.

42. State your views as to the efficiency of the arrangements in cantonments and on field service for the transport of the sick both in *personnel* and *matériel*; and give any practical suggestions which may occur to you as likely, if acted on, to improve efficiency or reduce expenditure.

Colonel J. Doran, Commanding
27th Punjab Native Infantry.

Colonel H. S. Obbard, Com-
mandant 41st Bengal Native
Infantry.

Colonel E. Dandridge, Com-
manding 40th Native Infantry.

So do field hospitals work well temporarily when a regiment has to leave its sick, and clear out on an expedition or series of operations. As soon as the regiment halts again, it should again keep its own sick.

The established system, when carried out in its entirety, has worked satisfactorily in both medical and hospital systems in India. I have had no experience in its working in Afghanistan.

The medical and hospital system, as far as my experience has been in this presidency, works satisfactorily. The medical subordinates are, as a rule, intelligent, steady men, well instructed in their profession, and perform their duties efficiently.

I think the medical and hospital system in the Madras army is very good indeed, and works well. The hospital assistants are a well-educated and a very useful class of men, and appear to have much more knowledge of their profession than the similar class in Bengal, at all events such as I have seen.

Personally I know nothing of the recent operations in Afghanistan but what I have read in the papers and learned from other sources, and it seems to me the medical department was short-handed. There appears to be no reserve of any sort of army surgeons; for it is now nine months since the officer in medical charge of my regiment was taken away and sent to Burma, and he has not been replaced yet.

I cannot speak about Afghanistan; but my experience in India is that in many stations two medical officers are doing work which could easily be done by one. If it were possible to amalgamate the British and Indian medical services, the saving to Government would be very great.

I am unable to give an answer to the latter portion of this question, not having been engaged in the operations in Afghanistan. The medical and hospital system works satisfactorily in India in peace time.

The present regimental system works very well, and I would not disturb it. The general hospital system causes confusion, and loosens control and proper supervision, causing friction between commanding officers and medical officers.

As far as I have seen, it has worked well; but the subordinate medical establishment, when a regiment is sent on service, should certainly be increased. This was not done in the Bombay brigade, and caused much inconvenience.

Fair, so far as I have seen; but I cannot speak of the late Afghanis-
tan campaign.

I consider the base hospital system bad if it necessitates the shifting of doctors and their withdrawal from regiments on service.

I can only state broadly that I consider the arrangements for the transport of the sick both in *personnel* and *matériel*, particularly on field service, admit of very great improvement; but I am not prepared with any suggestions as to how this is to be carried out.

The arrangements for transport of sick in cantonments might be modified with advantage by substitution of a lighter and more portable doolie. In all other respects they appear satisfactory. Such a doolie I consider especially necessary, too, for field service. For the actual field of battle, doolies and hammocks will always be required; but for conveyance of the sick and wounded to the rear, the carriage available in the country, and suited to it, whether camels, or carts, or whatever else it may be, must be largely employed. The cumbersome ambulances of European fashion are only suited to good roads. Attention might well be directed to the construction of suitable kajawahs for use with the ordinary camel saddle; light and expensive bamboo frames on wheels that could be drawn by one mule or pony, and the best means of making an ordinary country cart comfortable for transport of the sick.

For cantonments, I consider the transport arrangements to be quite sufficient, and the cost but trifling. On field service the *personnel* chiefly failed by reason of the physical unfitness of the men employed, and their want of unsuitable clothing. Suggested that a kahar corps be raised in connection with the transport department (the latter will, I presume, be set on foot), to be composed entirely of able-bodied kahars. The men to be employed in peace time by the commissariat, transport, and other Government departments.

In regard to *matériel*, the cumbersome doolie to be replaced by a folding stretcher with a collapsable hood, something after the fashion of a hill dandy, which can be carried by two men.

Colonel G. W. Fraser, Commandant 39th Native Infantry.

The present arrangement for the transport of sick in cantonments, consisting only of one doolie and four kahars, can scarcely be reduced, and appears to answer the purpose on ordinary occasions.

On the line of march in peace time I am of opinion that no sick whatever should accompany a regiment, but should be left behind until recovered. Under the present system they are only an encumbrance to the battalion; and the fact of their being exposed to the bitter cold at night or to rainy weather in a tent, and, worse still, in an open country cart on the line of march (as is now done), cannot but be detrimental to health, and retard recovery.

Any man falling sick on the line of march should be dropped at the first station the battalion passes through.

When a regiment proceeds on active service in the field, this would of course be done.

For the conveyance of men who may fall sick on the line of march, regiments should be provided with ambulance carts capable of carrying six men, and constructed with a well below the body of the cart in which food for the cattle drawing it, for three or four days' supply, could be carried. They should also be fitted with lockers inside to carry medicines and surgical appliances. By the adoption of this plan one ambulance would do the work of six doolies or 36 kahars (six to a doolie on line of march), besides carrying all the medicines, &c., and requiring but one driver to each cart. A similar system would be adopted on field service in the plains, the number of ambulances per regiment being increased to meet the contingencies of service.

This would save the large army of kahars that now accompanies a force in the field in India.

In mountain warfare no other expedient but doolies and dandies, with their necessary complement of kahars, appears practicable; but all sick and wounded should be left behind as far as possible at field hospitals, established at such points as may be found convenient; from whence again they might be sent, in severe cases, requiring more prolonged treatment, to base hospitals in the rear.

Lieutenant-Colonel H. Worsley, 7th Bengal Native Infantry.

Arrangements for the field appear most defective. It might be advisable to form a corps similar in constitution to the 'Krankenträger' of the German army—a corps with a military organization and a certain amount of military training, supplemented by instruction in a few minor medical details connected with the binding of wounds and the carriage of the wounded.

Lieutenant-Colonel P Harris, Commanding 11th Native Infantry.

In cantonments, if the general hospital system is adopted, an ambulance wagon would be the best means of conveying the sick between barracks and hospitals, as well as the most economical in the end; but on field service I question whether any better method can be devised than the present dandy carried by regular kahars, as our field of operations is invariably in a country not practicable for wheeled carriage.

Lieutenant-Colonel L. H. Williams, 14th Sikhs.

I am of opinion that the present arrangements are sufficient for cantonments. I would recommend a better class of dandy for service. Those issued to the regiment at Peshawar for the Afghan war were found very unserviceable. I would also suggest the employment of camel kajawahs for the conveyance of such men, as being more economical.

Lieutenant-Colonel R. J. Walker, 17th Native Infantry.

The arrangements are sufficient in cantonments. Only four bearers and one doolie are allowed; and this cannot in any way be reduced. I have had no experience of field service, so cannot give an opinion on the latter part of the question.

Lieut.-Col. R. G. Rogers, Commanding 20th Punjab N. I.

Vide report on "Transport."

Lieutenant-Colonel F. B. Norman, Commanding 24th Punjab Native Infantry.

I cannot see that any great improvement can be made in the arrangements for carrying the sick in cantonments. It possibly would be an improvement if all the doolie-bearers were regularly enlisted, clothed in uniform, and armed with a small sword; but I do not think they would perform their duty in a more efficient manner. On service, ambulance carts should be used when practicable, and I think that the dandies should be of the Lushai pattern; also that the proportion of doolies might be reduced, and dandies substituted in lieu.

From—LIEUT.-COLONEL F. B. NORMAN, Commanding 24th Punjab Native Infantry,
To—The Secretary, Army Organization Commission.

I have the honor to forward my replies to the questions sent to me with your letter No. 63 of the 8th instant, and in doing so, avail myself of the privilege accorded in the fourth paragraph of your letter.

I have stated that I consider that the strength of a Native battalion on a peace establishment should not be less than 800 sepoys. A battalion of 600 sepoys, if suddenly ordered on service, is, as a rule,

Strength of a Native battalion.

worked; and this tells seriously upon its efficiency as the campaign progresses. It is obvious that the regimental guards for a battalion of 800 men would not be of greater strength than for a battalion of 600. With our present weak battalions the men are overworked. It is many months since the men of the 24th Regiment Punjab Native Infantry have had three nights in the week in bed; and only 3 per cent. instead of 10 have been allowed to go on furlough. I attach, in support of my suggestion, a present state of the regiment as it was on the day it started on the second expedition to the Bazar Valley. The men who were left behind at Jumrood had only one night in seven in bed. I also attach a present state of the regiment after eight months' hard work.

I am very much opposed to the establishment of a reserve for the Native army, as I consider that in time of popular disturbance, particularly if it were of an agrarian character, the men of the reserve would be likely to make common cause with the malcontents.

Reserve for the Native army.

Holding this opinion, however, was I considered no reason why I should refrain from giving my opinion on the various questions on this subject contained in the paper you sent me. I think one point deserving the greatest attention is that the number of men to go to the reserve annually should be limited; otherwise our small regiments would soon be rendered inefficient. I deprecate men of the reserve being allowed to join the police, unless this latter body is put under more strict military superintendence than it is at present.

I would suggest that all pensioners of the Native army should be made to clearly understand that, in times of emergency, Government has a right to their services, should they be in a fit state of health to perform garrison or other light duty. It will be remembered that, at the commencement of the mutiny, Sir Henry Lawrence ordered all the pensioners in Oudh to report themselves at the nearest military station. After the mutiny many men were struck off the pension establishment because they had not proved their loyalty by obeying this order. The principle I advocate is not, therefore, a new one. But, in order that the men should clearly understand that Government had a claim upon them, I would recommend that an article to this effect should be added to the Indian Articles of War, and that it should be one of those ordered to be read to the troops every quarter.

Pensioners of the Native army.

With regard to question 26, the proviso regarding expenditure prevented my recommending what I consider a matter of almost vital importance; and that is, an increase to the pay of non-commissioned officers. These men are the backbone of a regiment; their duties, more particularly since the introduction of musketry instruction, are onerous and responsible, and their prospect of promotion to the commissioned grades very remote. I would earnestly recommend that they should receive an increase of pay, say of one rupee, for every year's service in the non-commissioned grade up to twelve years' service. This would be a substantial increase without bringing their pay too close up to that of a jemadar.

Pay of non-commissioned officers.

I consider that something is required to brighten the careers of Native officers. The want of prospects is of course chiefly felt by the men of this class who have entered the service as commissioned officers. The pay of Native officers has been much improved of late years, and the grant of full pension after 32 years' service was a great boon. But I think that some plan should be devised of rewarding Native officers of all grades who may have performed good service by the bestowal of a medal and honorary title; as suggested by me in reply to question 26.

Honorary titles and medals for Native officers.

Present state of the 24th Regiment Punjab Native Infantry, 24th January 1879.

DETAIL.	Subadars.	Jemadars.	Havildars.	Nalks.	Beglers.	Sepoys.	Total.	REMARKS.
Bazar Valley Expedition ...	5	4	21	20	4	300	354	Orders to enlist 200 more men were received on the 13th December 1878, the regiment being at the time at Nowshera.
Effective ...	3	3	11	13	11	107	148	
Recruits ...	...	...	...	...	1	77	78	
Sick in hospital ...	...	...	...	...	...	1	1	
Musicians ...	...	...	2	...	...	12	14	
Staff employ ...	...	...	...	...	...	4	4	
On duty with Lieut.-Genl. Maudo, C.B., V.C. ...	...	...	2	4	...	27	33	
Sick in base hospital, Peshawar ...	...	...	2	3	...	28	33.	
At dépôt in Jhelum ...	...	...	1	...	...	64	65*	
On recruiting duty ...	...	...	1	...	...	11	12	
Sick at other stations ...	...	...	...	...	...	2	2	
On leave ...	...	1	...	...	...	5	6	
On sick leave ...	...	...	...	...	...	2	2	
Absent without leave ...	...	...	...	...	...	3	3	
Total ...	8	8	40	40	16	643	755	
Short ...	...	...	...	...	...	187	157	
Nights in bed 1. Establishment ...	8	8	40	40	16	800	912	
Excess ...	...	...	...	...	...	...	...

Present state of the 24th Regiment Punjab Native Infantry, 24th August 1879.

DETAIL.	Subdars.	Jumadars.	Havildars.	Nailas.	Daglers.	Sepoys.	Total.	REMARKS.
Effective	5	4	27	29	10	262	337	Orders to discontinue recruiting until the regiment has been reduced to a peace establishment were received on the 8th July 1879.
Recruits ... ..	...	...	...	...	2	162	164	
Sick in hospital and convalescents ... ..	...	1	3	1	...	83	88	
In confinement ... ..	...	...	...	...	...	1	1	
Musicians ... ..	...	...	1	...	...	12	13	
On detachment duty at Lundi Khana	1	...	3	3	1	44	52	From the 17th December 1878, the date the regiment arrived at Jumrood, to the 20th August 1879 the casualties were as follows:— Killed in action ... 4 Died of wounds ... Nil Died of diseases ... 49 Invalided ... 15
Ditto at entrenched camp, Lundi Kotal ... ..	...	1	1	3	1	45	51	
On command at Peshawar ... ..	...	...	1	...	...	...	1	
Recruiting duty ... ..	...	...	1	...	...	...	1	
Furlough	1	1	2	2	1	20	27	
Leave	1	1	...	1	1	12	15	
Sick leave ... ..	...	...	1	2	...	16	19	
Absent without leave ... ..	...	...	...	...	...	3	3	
Depôt at Jhelum ... ..	...	...	...	...	...	63	63	
Total	8	8	40	40	16	723	835	
Establishment	8	8	40	40	16	600	712	
Nights in bed 2-11. Excess ... ..	...	...	...	...	...	123	123	

F. B. NORMAN, *Lieut.-Col.*,
Commanding 24th Punjab Native Infantry.

Lieutenant-Colonel F. M. Armstrong, Commanding 45th (Rattray's Sikhs) Native Infantry.

In cantonments the arrangements seem all that can be required. In the field I would suggest a certain number of mules to be attached to each regiment where wheeled carriage is not available. In the last campaign many sick could easily have ridden; and each man thus riding would have saved one doolie and six bearers. More Native medical assistants are required with regiments in the field, also better means of sending small supplies of medicines, &c., with detachments. The want of this was often felt.

Major A. C. W. Crookshank, 32nd Pioneers.

I have generally answered this question in my replies to queries 41, 38 and 36.

In peace and war the *personnel* might be reduced and revised as I have pointed out.

The *matériel* is in peace I believe more than is really required, and, except in the more important drugs, might be reduced. For war an allowance to meet the wants of say 15 cases for three months would suffice, if reserves are obtainable.

As regards transport, the doolie maintained with each regiment might be dispensed with, and a few stretchers to be used by the men given instead.

On the march, a light ambulance should replace the two doolies now allowed, and which generally carry the medical officer and the mess. In time of war, I think 12 good Lushai doolies and a few camel kajawahs fully sufficient for the transport of all the sick which ought to accompany a regiment: generally the more sick transport there is, the more men there are to be carried.

As regards the *matériel* for transport, the old-fashioned doolie should be utterly and for ever condemned, and so should every doolie. The Lushai doolie answers every possible purpose, and is carried by four men. The carpet dandy supplied to the force was simply an instrument of torture, and an utter want of common humanity could alone have dictated the order for its supply. It was not fit to carry a sick cat in, much less a human creature and soldier; and it could not even be used to carry a tiffin basket. Of camel kajawahs we had various patterns: those used by the Afghans for the transport of their women seemed good, and we should take the opportunity of being in Afghanistan to get a good pattern, and a store of them should be kept up. In the Transport paper I speak of kahars. Newly-trained men are merely food for the hospitals, and have to be carried instead of carrying others. All kahars used with regiments in garrison should be enlisted for general service, and be kept continually at work. When war breaks out, they should at once be drafted off to the terminus nearest the theatre of war, and their places taken by locally entertained men. We should thus always have a proper supply of *bonâ fide* bearers.

Similarly, at convenient depôts in India, say Madras, Bombay, Calcutta, and Lahore, or Pindi, there should be stores of clothing, dandies, kajawahs, &c., enough for a force of say 5,000 men, or 20,000 in all.

N.B.—I subjoin replies to questions 38, 41, 42 from Surgeon McKay, in medical charge of the regiment, an excellent and most practical medical officer:—

"38. I do not think that the station general hospital for Native troops can be satisfactorily carried out.

As a rule, when more than one Native regiment is stationed in one cantonment, they generally are placed at each end of that station; consequently the hospital would be a long way from one of the regiments, and would entail besides other inconveniences and increase of doolie-bearers.

There would be difficulties in the feeding arrangements. A bunniah with his establishment would have to be appointed, as the patients could not go to the regimental bazar, nor could their friends always be at liberty to take them their food.

Sepoys have a great dislike of being away from their regiments. This of course cannot be given exactly as an argument against the general hospital system; but it ought to be taken into consideration, especially as caste is recognized.

The men are much less likely to scheme, would I think be better looked after, and would feel more comfortable in a regimental than in a general hospital.

They would not be under the supervision of the officers of the regiment. Unlike the British service, there would be no economy in the hospital establishment. Perhaps one *shop-coolie* from one of the corps and a *blattie* could be dispensed with; but against these would be the pay of four *doolie*-bearers at the least.

There would be no economy with regard to surgeons and hospital assistants.

There would be a saving in certain medicines; but when that is considered, it would be found to be very trifling.

With regard to the instruments, those not frequently used were ordered some time ago into store, and now if required they can be obtained on loan from the Deputy Surgeon-General's office. This gives rise now and then to some inconvenience; but on the whole I think it is a good plan.

Looking at the doctor and his treatment, I would prefer the general hospital; but with regard to the patient and his comfort, the regimental hospital is to be preferred.

On field service the general hospital for Native troops is an absolute necessity, but it must be carried out thoroughly; half measures are worse than none.

My experience from the late Afghan war on the Kandahar side is that the regimental system failed.

The general hospital system for Native troops would not be so economical as in the British service, as there is only 1 medical officer to each regiment instead of 3; consequently with a division of 5,000 men 5 or 6 extra medical officers would be required, allowing for only 1 per 50 sick per 5 per cent. of strength—a very small percentage.

In the 2nd Division (General Biddulph's) the field hospital system was partially and imperfectly carried out; but it succeeded so far that it took a great number of sick, who were an incumbrance to the different regiments.

The general system must succeed, if properly equipped and thoroughly carried out.

I do not think that anything is needed beyond the 1 hospital *doolie* and 4 *kahars* at present with each regiment.

On field service, if there be no field hospital, carriage for 10 per cent. of strength ought to be allowed to each regiment, 4 per cent. of *dandies* and 6 per cent. of camel *kajawahs*.

If a field hospital is formed, each regiment ought to have carriage for 2 per cent. of strength, ½ per cent. *dandies*, and 1½ per cent. of camel *kajawahs*.

The *Lushai doolie* is the lightest, most comfortable, uncomplicated, and easily mended.

The hammock dandy is a bad mode of conveyance; it is too short, too near the pole for comfort, and it compresses the sides, rendering it useless for cases of chest diseases and also for wounded.

In reckoning the strength of a regiment for sick carriage, some allowance ought to be made for the camp-followers, including the *kahars*. One sick *kahar*, if he has to be carried, renders two *dandies* useless to the regiment.

Medicines.—The heavy cumbersome camel trunks ought never to accompany the regiment (even on an ordinary march in India). A pair of mule trunks or panniers and a field companion with a few splints are ample for two months. Arrangements could easily be made to replenish them when required.

On field service the general hospital system for Native troops is a necessity; but in cantonments I cannot see that it can be carried out satisfactorily, and certainly there will be no economy.

H. K. McKAY,

Surgeon, 32nd Pioneers.

Colonel R. Sale Hill, Commanding 1st Gorkhas (Light Infantry).

The arrangements for transport of sick in cantonments are simple enough. So long as each corps has its own hospital, a *doolie*, as at present, is sufficient.

On field service it is quite time changes were made in the means of carrying the sick and wounded. The old pattern *doolie* should be at once discarded, and such a horde of *doolie*-bearers as accompanied the army of Afghanistan should never be seen again.

In India there are few localities where wheeled carriage cannot now be used, so that light 4-wheeled carts, on springs, and drawn by bullocks or mules, should be adopted. Such carts might hold 10 men sitting, or 2 men lying down and 4 sitting, with their arms and accoutrements. On the box-seat the hospital assistants might ride, as it can scarcely be expected that these men can attend to their duties as they should do after a long march on foot. In a country unfit for wheeled carriage light *doolies* (such as the *Bourko* or *Hamilton doolie*) and *Lushai dandies*, with water-proof sheets, might be provided.

Of the former 2 and of the latter 4 per regiment would, in ordinary cases, be sufficient. The remainder of the sick carriage should be made up with camel *kajawahs* or mules. The *kajawahs* should be of the Pathan pattern, with bars across the camel's back, and not such as are used for carrying baggage and are slung by chains. Mule-saddles should have backs somewhat like arm-chairs, and could be used for bullocks, if necessary.

Major A. Batiyo, 2nd Gorkhas.

In cantonments no change is required. For service a certain number of net hammocks on strong but light bamboo poles are much

required for carrying wounded men quickly off the field. They would be particularly useful to accompany advance and rear guards, and other detached parties in hills or plains (chiefly in the hills).

Better arrangements required for entertaining kahars for field service. Some of the men sent to the 2nd Goorkhas for the Malta as well as Cabul expedition were quite unfit for their work. Particularly on the Cabul expedition, when some of them looked like very old pensioners. One was nearly blind with age; another was in his dotage. Some more were pronounced physically unfit, and had to be sent back. One of these men told me that he had been forced to come by some Native official of his district. It is not at all improbable that good men are taken before the officer who has to pass them, and afterwards changed for helpless old men without friends, who are forced to take their places.

A minute descriptive roll of all men entertained by a British officer should be sent with them.

Major F. E. Bowercroft, 4th Goorkhas.

The present arrangements seem to work well enough in *cantonments* and during peace time; but I think the cumbrous doolie might be abolished in favor of a good light dandy, covered. For active service I think Native regiments should have a larger proportion of dandies for the carriage of sick and wounded men than is at present allowed. But medical officers of long considerable experience would be better fitted to answer this question.

Colonel H. Boisragon, Commandant 4th Sikhs.

Vide reply to question 41. Regimental hospital system in fighting line; a general one at different central bases.

Lieutenant-Colonel F. H. Jenkins, Commanding Corps of Guides.

In this regiment the transport for the sick is quite sufficient. Besides kahars to carry doolies and dandies, we have 10 pairs of camel kajawahs, by which means four sick men can be carried on a camel. The kahars are well accustomed to their work. They start on a campaign with sufficient clothing, and they are just as well looked after as the sepoys. During the whole of my service I have never known an instance of regimental kahars shirking their work on service; and I think every regiment ought to have a certain number of kahars permanently attached to it; and I think regiments serving in the Punjab ought to have camel kajawahs, so as to keep the number of kahars as low as possible. Camel kajawahs might also be kept in store, to be used in campaigns in the hills. The kahars who were hired at the commencement of the war were in many instances not used to the work. They had not proper clothing at first, and many of them never recovered from the hardships they underwent before they were supplied with warm clothing. A great deal of money was wasted on these people.

Lieutenant-Colonel J. J. Boswell, Commanding 2nd Sikhs.

Punjab Frontier regiments are equipped for immediate service; and the following establishment for sick transport is kept up by each regiment, and on ordinary expeditions has been found to answer all requirements:—

1 sirdar of kahars.	8 durri dandies.
1 mate.	3 Bareilly dandies.
48 kahars.	5 pair kajawahs.
8 doolies.	4 mule-boxes.

The Bareilly dandies were introduced experimentally a few years since, but practically are a failure. The old-fashioned square doolies are antiquated and cumbersome, while durri dandies are most difficult to lie in. I would suggest the following establishment and *matériel* be substituted:

1 sirdar of kahars.	1 mate.
48 kahars.	

All to be armed with a tulwar and shoulder-belt.

Sixteen Lushai dandies, with waterproof sheet, to throw over pole in case of rain.

Five pairs camel kajawahs, with covers. These should be on principle of those in use with Punjab Frontier Force, and not like those supplied for this expedition, which have all broken over and over again, while my regimental ones, which have been in use for years, are as strong and serviceable as ever.

Three pairs mule-trunks for medicine.

One pair camel-trunks, which are required to contain the larger surgical instruments, splints, &c., which cannot go in mule-boxes. I would suggest the kahars, as at present, be available during the hot weather as pankha-pullers, &c., by officers of the garrison, but that a charge of Rs. 3 per man be made, Rs. 1 to be paid the kahar, and Rs. 2 to be credited to Government. This would effect a saving of Rs. 50 to Rs. 60 per mensem per regiment. The above establishment would suffice for an ordinary frontier expedition near its base; it would require to be augmented according to its distance from the base.

Major A. G. Ross, Commanding 1st Sikhs.

Field service duties should be lighter.

Six kahars to every dandy. Abolish durri dandies. For bearers take kahars, and not cultivators and shepherds and fakirs, and all kinds of people unaccustomed to carry either doolie or dandy.

Camel kajawahs might be lightened and made more comfortable. All pack-saddles might be arranged for men to ride on.

Use carts where there are cart roads. In lightening doolies, make them strong, and not seek for "jims" which complicate matters. Let a doolie be a doolie, only made lightly and strongly, and with interchangeable poles. Do not try for clover dodges of turning the doolie into a table, &c., &c. These fail in the hands of rough men.

Colonel A. Jenkins, Commanding 2nd Madras Native Infantry.

The arrangements for the transport of the sick of a Native regiment, and for the protection of the sick during transit from cold and motion, are not adequate in cantonments or on field service.

I would suggest lighter and more roomy ambulance carts being used (with moveable sleeping berths) for the partially helpless sick, and doolies for the wounded and very helpless sick, of such a pattern as will permit of the patient continuing on it as on a sleeping cot in the hospital tent after the march.

Colonel L. W. Buck, Commandant 20th Madras Native Infantry.

Instead of doolies and sick carts, I would have for serious cases pouy tongas, to hold with the driver four men sitting up or two lying down. For trifling ailments, the Madras bullock cart in ordinary use; it is light and goes on any road, and will hold eight Natives. Bearers for doolies are now hardly procurable in some parts of the country. They have always to be pressed, and require much looking after.

Colonel W. A. Gibb, Commanding 25th Madras Native Infantry.

As already stated, there is no sick carriage with a Native corps in cantonments. If a doolie was suddenly required, I should have to indent on the commissariat for one; and I should not get it for hours. Either that, or I must borrow one from the garrison hospital or from the hospital of a British regiment, supposing there was one in the place.

The doolie-bearers and doolies are both good on the Madras side. The murchils are also light and excellent.

I cannot suggest any improvement in them. The sick carts also in use in the Madras army are very good. I certainly cannot suggest any means by which reduction in expenditure could be effected.

Lieutenant-Colonel P. A. Carnegie, 39th Madras Native Infantry.

In cantonments very little sick carriage is required, and there seems to be no difficulty in providing it; but for the field the system of doolies carried by bearers (or coolies) hired in any district where they are obtainable is very objectionable, and I believe broke down completely, so far as Madras troops were concerned, in the late war. I can offer no practical suggestions beyond enforced registration of doolie-bearers in each collectorate where they can now be obtained. In certain districts, particularly those south of Madras, I doubt whether any could be obtained, as the Native seldom travels in that way now.

Brigadier-General A. B. Little, Commandant 25th Bombay Native Light Infantry.

I consider the arrangements in cantonments are all that are required. For field service it would be necessary to organize a special ambulance corps. This would no doubt be a costly affair, but it is nevertheless quite necessary. I would employ *stretchers*, to be carried by two men, to move the wounded off the field to the field hospitals, and ambulance carts to carry them, if necessary, any distance. It is simply cruelty carrying the wounded in the common carts of the country. This question requires a vast deal of consideration to deal with it properly, and data which I have not.

Colonel S. Edwardes, Commanding 2nd (Prince of Wales' Own) Grenadier Regiment Bombay Native Infantry.

Greater care should be exercised in selecting men as doolie-bearers; also in weeding out the old men. They should be formed into corps with a certain amount of discipline, properly clothed, and shod. On the outbreak of a war all sorts of men are entertained, to whom boots and clothing are issued, which they at once sell, as was the case on the formation of the expedition to Abyssinia. A little organization in time of peace would prevent all this confusion and waste on the outbreak of war. In peace time their service could be utilized in many ways in cantonments in lieu of obtaining hired labor from the bazaar. All the punkha-pulling and watering of tatties not only of the men, but of officers, might be done by them. They might furnish guards for empty public buildings, be employed in the barrack and commissariat stores, &c.

With regard to the material, the ambulance cart at present in use, although heavy and cumbersome, does fairly well in cantonments, but is quite unserviceable off made roads.

The Bombay doolie is too heavy even for cantonment work. The dandy is the most suitable conveyance for the sick both in cantonments and on service. A serviceable pattern should be selected out of the many submitted and tried lately, and should be adopted for general use.

The camel kajawah of the reclining pattern does very well for mild cases of sickness or convalescents; but owing to the jolting motion of the camel, it is not suited for the transport of men suffering from severe illness or from bad wounds. Stretchers, one per company, should always be in regimental charge, so that some of the men might be taught the use of them, and how to handle a wounded man so as to place him on one. The bandsmen of a regiment would be most suitable for this work. They should be trained as soldiers in case of being called upon in an emergency to use a rifle; but on ordinary active service they would be more efficient as stretcher-carriers than as soldiers.

Colonel H. H. James, 10th Bombay Native (Light) Infantry.

I have no suggestions to make. It appears to me that the medical transport arrangements as they stand are fairly good. Roads are often so bad in India, that wheeled transport for the sick cannot be substituted entirely; and I know of no other kind of transport likely to be more economical or efficient.

Colonel R. Mallaby, Commandant 13th Bombay Native Infantry.

In cantonments I see no necessity for altering the present system. In the field the raising of special ambulance corps would entail a very serious addition to a peace establishment, as it would involve the existence of at least a permanent skeleton corps in *personnel* and a full establishment in *matériel*. If the *personnel* is to be in the highest state of efficiency on the outbreak of a war, it must have had a previous training.

It might be of use to train in peace a certain number of men in regiments for service with the ambulances, but it would have the disadvantage that it would take away from regiment men when they would be most wanted with regiments.

General observations by COLONEL R. MALLABY, Commandant 13th Bombay Native Infantry.

Observations asked for in paragraph 4 of the Secretary's letter.

In the replies to the questions, I have advocated the following:—

1. A modification in the strength of European officers.
2. The transfer of the duties of paymaster from the adjutant to the quartermaster.
3. The addition of pioneers to regiments.
4. The employment of regiments beyond the presidency.
5. Argued against localization in any form, and against drawing families towards regimental head-quarters.
6. Enlarging the area of recruiting.
7. Enlisting by nationalities and rest by castes, and restricting the strength of any one nationality to one-third the strength of the regiment. It is worth considering whether it might not be desirable to have in each presidency depôts where men might be trained ready for drafting into regiments, and from which the additional numbers required to place regiments on a war footing might be obtained instead of drawing volunteers for our regiments which might ultimately be required in the front.
8. The earlier pensioning of the Native soldiery, coupled with their being placed on a roll, as a reserve, and in the meantime employed in the Government offices, drawing the emoluments of present civil incumbents, their pensions being in the meantime in suspense.
9. I have disapproved entirely of the English reserve system as applied to India. You do not want a trained warlike population in India; it could only be a menace. You want men to complete your regiments to a war establishment when a war breaks out; and these could be always in hand in the mode I have mentioned above.
10. An entire revolution in the dress of the men. I would retain their present arms, but have a sword bayonet instead of the bayonet; an arrangement of under-clothing being all that is required to meet extremes of temperature.
11. The formation of military circles for the training of men employed in Government offices.
12. Promotion from the ranks.
13. Mixed regiments.
14. Increase of pay instead of allowance for dearness of provisions.

Colonel Creagh, Commanding 19th Bombay Native Infantry.

In cantonments a doolie and four bearers are allowed for the conveyance of the sick. In the field, as I have before stated, the number of bearers should be reduced one-half; and the carriage for the sick, carts or camels, supplemented, when necessary, from the commissariat department. The dandy supplied to the Bombay brigade is most faulty, being merely a breadth of canvas attached to a pole, the person carried being forced to hold on by the pole to prevent himself from falling out. For a wounded man it would be simply torture.

The subject of transport is one that requires great knowledge and deep study; and as I have not devoted my attention to it particularly, and have had but limited experience in the field, I will not trouble the Commission with an opinion.

Colonel A. Carnegie, 21st Bombay Native Infantry.

Having now to the best of my ability replied to the several questions submitted to me, I would beg to add a few remarks on the annual invaliding of the Native army; the number of foreigners allowed in regiments of Bombay Native Infantry; and the special organization which in my opinion is required for the Marine Battalion under my command.

First, then, with reference to the invaliding. The present system is that men considered unfit for service by the regimental committee are sent before a general invaliding board for a second or final examination.

Now to this system I have two objections. First, that in very many cases the opinions of the regimental committee, which is composed of the commanding officer, the adjutant, and the medical officer (by every one of whom the case of each man is well known and understood) is set aside by the members of the general invaliding board, who cannot possibly have the same means of judging what the antecedents of the men are. Personally I have more than once felt extremely hurt at my opinion being thus set aside; more especially when men have been sent back to me who never performed another day's duty, and for whom I had to apply for a special board.

But this is only one objection to the system, another being one of expense. For instance, men are now sent from out-stations in the Bombay circle at the expense of Government to appear before the general invaliding committee at the presidency, and those rejected by that committee are entitled to a free pass to rejoin their regiments for another year, when the same thing has to be done over again.

Under these considerations, therefore, I am of opinion, both on the score of efficiency and economy, that the general invaliding committee should be done away with, and the opinion of the regimental boards should be considered final.

Secondly.—With reference to the number of foreigners allowed in Native regiments in the Bombay army, I believe that it is not only my individual opinion, but that of almost every commanding officer, that the number of foreigners should be increased from one hundred to two hundred.

Thirdly.—I would now beg to offer a few remarks on the special organization in my opinion required for the Marine Battalion.

I do not consider the double-battalion system advocated by me for the Native army in general suitable to this corps, as 1,200 men would be considerably over the number ever likely to be required for the special duties devolving on it. I would, however, suggest that the strength of the battalion be permanently fixed at 800 men, with its present establishment of European and Native officers. I make this suggestion as the battalion now furnishes two complete companies for permanent duty in the Persian Gulf, besides detachments on board several of the Indian marine vessels; and from a conversation I recently had with Admiral Bythesa on the subject, I inferred that he is very anxious that the marines should be more generally employed on board those vessels under the proposed new organization.

Under these circumstances, in my opinion it is necessary to augment the battalion by 200 men, so that, while performing the extra duties required of it in the Persian Gulf, &c., it would still be in a position to take its proper proportion of garrison duties.

I trust I may be permitted to remark that, from the constitution of the Marine Battalion, I consider it one of the most useful and serviceable regiments in the Indian army. It has no caste-prejudices to prevent the men all cooking and messing together, so that it can be sent on service, either afloat or on shore, at the shortest notice; and in the latter case with a considerably less amount of carriage than would be required for most Native regiments.

Lieutenant-Colonel O. Y. Tanner, Commanding 29th Bombay Native Infantry.

I consider the doolie at present in use too heavy and cumbersome. I have often seen them carried on camels, there being insufficient kahars, or the kahars being sick. A lighter kind of carriage would be preferable, even if not quite so comfortable, as it would be more likely to be present when required.

Remarks by Lieutenant-Colonel D. B. Young, Officiating Controller of Military Accounts, Bombay.

I would submit that a Native infantry regiment should consist of at least two battalions; that European officers should be interchangeable; that the regiment should have one fixed station from which it should send, where necessary, a certain number of men for a short service at a particular station—say Surat from the head-quarters of Ahmedabad; that a battalion of the regiment should be sent, when needed, for garrison to, say, Butma, Adon, or Bombay, none of which places would form regimental head-quarters; that men, after being not more than ten years with the colors, should pass into the reserve on not more than three or less than two rupees a month; that these men should assemble annually or biennially, or even triennially, for training, being provided with a free railway pass to and from the nearest station to the regimental head-quarters, at which place all arms, clothing, and accoutrements would be kept.

It may be urged against this system that a district or country which now gives a large number of recruits, and to which pensioners now retire, would possibly not be the head-quarters of even one regiment (notably the Southern Konkan, where there are no troops, and yet 8,000 pensioners reside there). But this, though a forcible objection as urged from present data, might be considerably reduced in practice, as the men of the reserve might find inducements to locate themselves near the head-quarters of their regiments, or local regiments might find local recruiting-fields. I think the advantages might be considered.

1st.—Elasticity as to numbers, as there would be always ready a considerable number of trained and seasoned soldiers, who would revert, after the crisis had passed, to ordinary civil life. The system of ordering a number of recruits to be entertained on the breaking out of a war or the despatch of certain regiments on active service does not seem to meet the requirements of the State, as the war is most probably concluded before the recruits so entertained have become drilled men. These recruits thus remain as supernumeraries, and are a source of recurrent and needless expense. Even supposing that the war is prolonged, they still must be very young and unseasoned.

2nd.—Absence of all families and impedimenta when a regiment is sent to serve at a comparatively foreign station—say Burma, Bengal (province), or Aden.

3rd.—Power of sending a considerable body of European officers with a regiment on active service, as the battalion at regimental head-quarters would become more of a dépôt or training establishment for reserves called in or recruits entertained. Thus the European officer would be available at the time of need, and yet the regiment would not be crowded with this expensive element in quarters. I think it may be admitted that a Native soldier is so orderly and helpful, that he requires in peace little supervision; and the European officer, if in large numbers, and thus having little to occupy him, is apt to deteriorate.

4th.—The providing of a real home for the European officer where he may possibly accumulate property and be thus somewhat induced to give up to a certain extent the craving for early and constant return to England.

In connection with this system, I would have inspectors-general of Native infantry and cavalry, who would probably, if the three armies of India were one, have no local or family ties with the regiment inspected. This system is worked in the artillery in India, with I believe satisfactory results, and should compare favorably with the present one of sending an infantry general to inspect the interior economy of a cavalry regiment.

Very senior officers would be viewed as manœuvrers of large bodies of troops, such being annually assembled at certain centres. The cost of this would not, I think, be prohibitory, if it were a fixed rule that troops should be viewed as on active service as regards tents and baggage, but that Government considered it as part of the conditions of service that such annual training was not to form a reason for the grant of batta or other incidental expenses.

If a system of regimental carriage were in vogue, this would tend to lessen the cost to be debited to the immediate head of such camps. Besides, it might not be necessary that the regiment so assembled should be respectively strong, as the great end to be sought would be emulation between regiment and regiment, prevention of the deteriorating effects of remaining long in one station, mobility, and the accustoming of the general commanding to the handling of troops of all arms.

I submit that a reduction in guard and orderly duties is desirable. For instance, in Bombay 2 havildars, 2 drummers or buglers, 1 fifer, 39 rank and file, and 2 boys may be detailed daily for guard and orderly duty in each regiment of Natives infantry. I do not say that that number is told off, but it may be, and possibly is, in some regiments. And it will be remembered that this is for regimental duty only. There are, besides, the line-guards and orderlies. In the latter class considerable economy might be expected. For instance, the Judge Advocate-General, Bombay, has two orderlies in addition to four peons. As his office establishment consists of three clerks, it may be questioned how work can be found for this large staff of messengers.

I think that there cannot be a more wasteful expenditure of labor than the system of regimental guards and sentries in peace in cantonments. This system has, it may be concluded, originated in war and been carried into quarters, partly owing to custom and habit, and partly to a possible advantage, it may be supposed, to afford for keeping men out of mischief. It is not imagined that now it is desired to pretend to keep men occupied by making them accustomed to do really nothing for many days in the year; and I question whether they are kept out of mischief. On the contrary, having nothing else to do, they may contract a habit of talking rather wildly as to their own army, regimental or individual prowess; or they may originate some foolish plan for varying their legitimate duties. For instance, when the Bombay troops relieved the Bengal regiments in Rajputana about the year 1850, at one guard the word was passed that it should turn out to salute a rat which was said to daily appear at a certain hole; at another to turn out at midday to salute the tomb of a holy man.

I think that it would be advantageous to transfer from the adjutant to the quartermaster all pay matters. The former has sufficient other and more legitimate duties; the latter is a comparatively idle man. If the office allowance now given solely to the adjutant were divided, it would be ample for the separated work, especially if it were ruled that, after a certain period, only Native soldiers should be employed in regimental offices. Such an order would tend to minimize fraud, encourage education, and remove a difficulty apt to be experienced in getting a civilian clerk to proceed with the regiment on foreign service.